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## ORIGINAL ARTICLES.

### THE PRESENT STATUS OF ANTISEPTIC SURGERY.*


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In the consideration of this subject, at once a wide field opens to the student, and a cursory glance at medical literature for the past three or four years will show, beyond cavil, that the universal antiseptic has not yet been discovered, nor will such a *panacea lapsorum*, in my mind, ever be revealed. I have no doubt, however, that the time will come when a more thorough understanding of the actions of the so-called antiseptics will be arrived at, and that the surgeon may then be enabled to select certain drugs or certain chemicals which, beside having antiseptic properties, may be peculiarly adapted to the process of repair as taking place in the different structures of the human body.

I think it may be affirmed at the present that, while the aseptic or Listerian method, or certainly portions of it, which were formerly deemed essential, are gradually being done away with, yet that antiseptic treatment is being more thoroughly investigated. This may be judged even by a cursory review of the treatment of wounds in hospitals as well as in private practice.

The spray is almost abolished in the majority of hospitals, and many antiseptics, other than *carbolic acid*, are employed by surgeons in all parts of the world. It is well known that Mr. Savory, senior surgeon to St. Bartholomew's, the largest of the London hospitals, rejects the antiseptic treatment and relies upon cleanliness alone, and very ably has defended his position, although Mr. Chein, in his late work, states that the Savory treatment was in some degree antiseptic.

Mr. Lawson Tait, as has already been mentioned, is no advocate for the antiseptic method in ovariotomy, and we find in the *American Journal of the Medical Sciences*, so late as January this year, 1883, a most surprising record, viz., the record of one hundred *consecutive* cases of ovariotomy performed without any Listerian details, of which but *three* died, and one of these from accidental suffocation, which really ought not to be classed in the mortality. His increased success Mr. Tait attributes to the improved methods of operating, to his more extended experience, and especially the *complete abandonment of the use of carbolic acid or any other disinfectant*, and the establishment of hospital discipline and hygiene on the best known principles.

Bantock, also, of the Samaritan Hospital, operates without spray. (*Medical Record*, March 10, 1883).

Mr. Keith (*Lancet*, August 13, 1881), it is well known, spoke his mind in the surgical section of the London Congress when he said that, after having a succession of eighty successful cases, he had five deaths in the next twenty-five cases, two of which were from carbolic poisoning, one from septicæmia, and two from acute nephritis He had abandoned the spray in all operations, and in the last twenty-seven ovariotomies without any antiseptic treatment, he had lost but one patient.

Holmes, at St. George's Hospital, discards the use of antiseptics except in disease in the joints.

Hutchinson, at the London Hospital, also works without Listerism.

In the hospitals in New York the surgeons are constantly investigating substances with a view of ascertaining their antiseptic properties, the spray being in very many of the institutions entirely abolished, and even by some considered as being pernicious. Sands, Stimson, Markoe, Wier and many other surgeons are, in the hospitals to which they are attached, constantly experimenting with the newer dressings, some of which as bearing upon the subject of this paper will be mentioned shortly. In Bellevue Hospital the dressing is as follows, as communicated to me by my former pupil, Dr. Fuller, now house surgeon in that institution: He writes me, "The form of dressing now in use in our wards is one introduced by Dr Lange, and is practically the antiseptic dressing that is being used in Germany almost entirely. The wound dressing, however, is only one element in the treatment of the case, the secret is absolute cleanliness and antisepsis. Say the case is one of amputation, or excision of a joint, the parts are first washed with soap and water, with *ether*, if necessary, and the hair shaved off. Then towels wet with an antiseptic solution, *generally* 1-40, *carbolic acid*, are spread around the limbs, so that the operator's hands or the instruments may not touch the parts unnecessarily. Instead of a spray the wound is frequently irrigated with a solution of *corrosive sublimate*, four grains to the pint of water. The instruments are absolutely clean, and are lying, when not in use, in a solution of 1-40 *carbolic acid*. The hands of those engaged in the operation are wet with the same.

For ligatures we use carbolized catgut or fine carbolized silk. We keep it in pots wound in spools. In amputation we use absorbable drains of decalcified bone, in other cases rubber tubes. After the final washing, the wound is sprinkled with *iodoform* and protected by rubber tissue, which is placed over the sutured margins of the wound, and the outside dressing is then applied; it may be peat, borated cotton, or gauze. Peat is the best absorbent, but is expensive. We generally dress within thirty-six hours. When the oozing of blood and serum will have ceased, the tubes are then removed or not, according to circumstances. This dressing must be made under the same precautions as the operation, irrigation, guards, etc. The second dressing may remain on a week or longer. If the discharge comes through the outside dressing, the part is to be dusted with *iodoform*, or an extra amount of cotton, or gauze applied. The only indication for the removal of the entire dressing is a higher temperature. With this

* Being the conclusion of a paper presented to the American Institute of Homœopathy, June, 1883.

dressing we have treated in the last two months over a dozen excisions of joints, half a dozen osteotomies, excisions of tumors, compound fractures, etc., without a bad result, and with a remarkably low range of temperatures. In all the wards we do not treat antiseptically, but there have been no results to equal these I speak of. Dr. Weir tried full Lister dressing with good results; Dr. Keys also. Dr. Wood used the open method entirely. Dr. Lange employs the one I have just mentioned."

In a late number of the *Medical News*, June 13, 1883, Dr. Henry C. Simes, assistant surgeon to the Episcopal Hospital, thus writes of the general treatment of wounds in the Philadelphia Hospitals. He says that Listerism is far from being accepted, and thus continues: "In this city (Philadelphia) I know of no hospital in which its surgeons have fully and thoroughly carried out the details necessary to give their treatment the name of antiseptic, that is to say, that they have not attended to the minute directions, and in many cases the principal features have been omitted;" and then further states, that in the same hospital, when antiseptically treated, cases were compared with those not subjected to the method, the results of the former were much more satisfactory.

From these facts, selected from an immense amount of material, it may be judged that antiseptic surgery, as we now regard it, is being more thoroughly investigated and improved, while the minute details of Listerism are being gradually abolished.

The constant search for new antiseptics in the treatment of wounded surfaces may be regarded as indicative of the fact that there are none which have as yet proved entirely satisfactory, and as much has been written and many experiments made during the past three years in regard to new substances said to be antiseptic in their nature would be scarcely proper in a paper on "the present status of antiseptics" not to allude in a concise manner to some of these materials.

### IODOFORM.

This substance, *iodoform*, must take the precedence, not only because it has been very much used by many distinguished surgeons, but because the results obtained have been very surprising. In fact, I recollect reading not very long since, that Billroth had stated that the reason that he had not published his cases treated with *iodoform* was that the results he had obtained were so very surprising that he feared they would not be credited.

*Iodoform* contains about 96 per cent. of *iodine*, and when decomposition is going on, the *iodine* is evolved, which, by actual experiment has been proved to be one of the best disinfectants.

After the wound has been cleansed, the powder of *iodoform* may be dusted over the part, and covered with a piece of protective. This substance is very useful in parts of the body where *carbolic acid* could not be applied, as in cancers of the rectum, tumors of the tongue and mouth.

Billroth made twelve consecutive amputations of the tongue, and treated the wound with *iodoform* without any fatal result. Dr. Sands (*Medical Record*, March 25th, 1882), of New York, mentions cases of strangulated herniæ, trephining for fracture of the skull, colotomy, enterotomy, castration, ligature of the external carotoid, peri-nephritic abscess, enucleation of suppurating inguinal glands, excisions of the breast, amputations, all of which made prompt recovery, treated with *iodoform*.

Among the German surgeons, especially Esmarch, Billroth and Langenbeck, the use of this drug has produced surprising results—out of thirty-four resections thirty-two were cured with a dressing once applied and allowed to remain thirty-five days. Billroth's method of applying *iodoform* is to powder the wound thickly with the substance, or, in some instances, to fill it; surround this with a piece of cotton wool or *iodoform* gauze, then a water-tight dressing is put on and held in position by a bandage. From a paper entitled, "*The Use of Iodoform in the London Hospitals*" (*Medical Record*, April 15th, 1882), we read that it is a favorite dressing in almost every institution. It must, however, be borne in mind, that *iodoform* is highly poisonous, although the *iodine* is taken up slowly; indeed Kœnig, of Gottengen, has published a special warning on this subject, and, therefore, the dressing ought not to be allowed to remain for over five days, and then for a time some other antiseptic should be employed.

The symptoms of *iodoform* poisoning chiefly show themselves in intoxication of varying degree and intensity, and often in mental derangement. It can be detected in the urine by adding starch and *nitric acid* and shaking well, when the blue color will appear. The lethal dose for a guinea pig is three grains, in rabbits forty-five grains, in the dog one drachm, and in man according to his susceptibility to the drug. But this subject has already been fully considered by others in the bureau.

### BI-CHLORIDE OF MERCURY.

Corrosive sublimate in dilute form is employed more especially by some of the metropolitan surgeons. I have employed it in amputations, resections, and the removal of tumors with excellent but not very surprising results.

Delacroix uses it in one part to 2525 of water, and Dr. Weir and Sands in about 1-2000, but of this Weir says, bacteric life was found under such dressings, and therefore, following the experience of Kümmel and Schede, of Hamburg, he used it stronger and with a uniformity of good unknown to Listerism.

In preparing this dressing, the sponges, compresses, etc., are wet with solution No. 1 (as it is called), consisting of 8 grains to the pint. The ligatures are made of silk dipped for two hours in a solution of 8 grains to the pint, and catgut immersed in 8 grains to the pint of water for 12 hours, then rolled on bobbins and kept in an *alcoholic* solution of 20 grains to the pint. The gauze is prepared by immersion in a solution of 20 grains to the pint of *alcohol* with ℥ iss of *glycerine*.

It has been found by Koch that the anthrax spores, the most resistant of all varieties, were completely destroyed by moistening the parts with one to five thousand of water, and if immersed for a longer period, a solution of one to twenty thousand parts was sufficient for their destruction.

### TURF DRESSING.

As Dittle discovered the elastic ligature by accident, so Neuber, two years since, recorded the case of a man brought to his clinic who had sustained a wound and fractures of both fore-arms, ten days before; a comrade had surrounded the wound with a turf mould, and upon its removal the cut surfaces were found healing beautifully. It has since been discovered that the dust resulting from the sawing of the turf into moulds possesses a very great affinity for *ammonia, carbonate of ammonia*, and odors generally, and in the infantry barracks at Brunswick, the turf mould is used to disinfect privies, etc.

This dust, beside being a great disinfectant, possesses wonderful absorbent properties, *taking up nine times its weight in water*. A great many experiments have been tried regarding its efficiency as an antiseptic dressing with satisfactory results. The turf mould is used as follows: Bags are made of two sizes, 12 and 24 centimetres square. The turf dust is placed in these, the smaller one having besides 2½ per cent. of *iodoform*. This is laid on the wound, which has also been disinfected; over this the larger bag is lain, the mould of which is saturated with a five per cent. solution of *carbolic acid*.

Its absorbent powers, its cheapness—a penny worth being sufficient for a dressing—and its antiseptic virtues, render it an excellent dressing in those countries where the mould is readily obtained, and so much has been

said of its efficiency that it is now being used by surgeons in this city, and I am informed with most excellent results.

### THE PER-OXIDE OF HYDROGEN.

The *per-oxide of hydrogen* has received very great eulogiums from many and varied quarters, and C. T. Kingzett, of London, made a report of a series of experiments with the material in 1876. In 1878, Güttman and Fraenkel, in Germany; and Baldy, Best, and Regnard in France made many demonstrations of the value of the material, and under the name of "*eau oxygene*" it has been widely used. It is employed as spray, as a washing for wounds, ulcers, etc., and is devoid of all odor. Kingzett has lately announced a preparation called "*sanitas oil*," which he claims to be an organic per-oxide, which will continually yield *per-oxide of hydrogen* to water, on being placed in contact therewith. If placed on surfaces it is said to keep them in a completely antiseptic atmosphere.

There are a great many other of the so-called disinfectants and antiseptics, among which may be mentioned *boracic* and *salicylic acids*, *eucalyptus oil* by Bassini, (*Medical News*, February, 1881). Resorcin, which belongs to the Phenol group, and has been noticed especially with reference to its substitution for *carbolic acid*, (*American Journal of Medical Sciences*, January, 1883.) *Naphthalin*, which according to Fischer, of Strasbourg, is superior to *carbolic acid*, (*Glasgow Medical Journal*, November, 1882).

### SUB-NITRATE OF BISMUTH.

The *sub-nitrate of bismuth* Kocher claims as a new and better antiseptic than any yet discovered, (*Volkman's klinische Vortrage*, No. 224, 1882). He discards drainage tubes and closes the wound its entire extent by suture.

During the operation the parts are sprinkled with water holding *bismuth* in solution. The wound is then closed by suture and the line of incision covered with *bismuth* paste. Then the dressings wet with *bismuth* water are applied.

As the sutures are removed, *bismuth* is again applied; this method is called healing by second adhesion, but there have been also some drawbacks to this substance when applied to extensive abraded surfaces; if *bismuth* in powder was largely employed, it was found to produce diarrhœa, nephritis, stomatitis and other disturbances; it was then employed in a solution of 10 per cent., and sprinkled on the parts with great benefit. The astringency of *bismuth* is said also to add to its effective healing powers.

### OXIDIZED OIL OF TURPENTINE.

This is announced as a valuable antiseptic (*Lancet*, 1881, page 971). It is prepared by passing air for a long time through the ordinary *oil of turpentine*. Mr. Lister was said to be experimenting with the substance, but as no report has as yet been given, it is reasonable to suppose that the results were not as satisfactory as Mr. C. T. Kingzett had anticipated.

### CHLORAL HYDRATE.

This substance has also been used in Russia, with benefit, as an antiseptic, especially in the treatment of ulcers and open wounds. Dmitrieff demonstrated in St. Petersburg, that an equal quantity of one per cent. solution of *chloral hydrate* destroyed in twenty minutes all mobility of the bacteria in a putrefying infusion of flesh. * * *

But a sufficient number of these substances have been enumerated to show, as I have already stated, that as yet all of them have some disadvantages. It is my belief, as already stated, that there must reside in any application made to a wounded surface, something beside its germ-killing properties, which after all are purely mechanical. *I am justified in asserting that because a substance is really a germicide, is no reason that it is a perfect vulnerary.* There must reside in the drug a power to act upon the leucocytes, to either hasten their amœboid motion to the cut surfaces of the capillaries, which are endeavoring to repair waste or to retard this very migration, and by so retarding, prevent the dying of the leucocytes, which, in the majority of instances, means their conversion into pus. Before, however, closing this portion of the paper I would introduce two other preparations to the notice of the profession, viz.: *Calendula* and *Listerine*.

### CALENDULA OFFICINALIS.

I must say, as far as I have observed, by actual results in the treatment of wounded surfaces—for I have never given any microscopical trial to ascertain its value as a germicide—that the *calendula officinalis* has given me equal, if not better, results than *carbolic acid*, and while I acknowledge the fact that since the "bacteria craze," and the "carbolic excitement," I have yielded to the popular cry and used *carbolic acid* in different proportions and in different solutions, yet I am convinced, other things being equal, that *calendula*, from its peculiar action on suppurating surfaces, is a medicine that sooner or later must receive the attention which its virtues deserve. I am quite sure of the following facts, that in the past five years, when I have been employing *carbolic acid* preparations upon wounded surfaces that have not appeared to be progressing as favorably as I thought they should, I have substituted *calendula* with surprising results. In many cases of breast amputations and large wounds, I have employed merely cleanliness and the solution of *calendula*, one part to four of water, with a most satisfactory termination of the cases.

### LISTERINE.

Before closing, I wish to say a word regarding a preparation called *listerine*, which has answered my expectations, as a vulnerary, in some instances better than *carbolic acid*, and, in others, equally as well as *calendula*. This substance is composed of *thyme*, *eucalyptus*, *baptisia*, *gaultheria*, and *mentha arvensis*, together with purified *benzo-boracic acid*. I have never used it internally, but have employed it quite extensively in general and hospital practice, as a safe and most agreeable disinfectant and healer. I placed a quantity in the hands of Dr. J. M. Ward, of the Hahnemann Hospital, and desired him to note its usefulness in operations, and to give me a record thereof. His communication reads as follows:

"I write this letter for a double purpose, not only to tender thanks, but to afford you an idea of our estimate of the efficacy of *listerine* as a disinfectant. It has been used in quite a variety of surgical cases with marked benefit.

"A case of resection of the entire ulna and a portion of the radius, by yourself, was afterward treated at each dressing by syringing the wound with a 'solution of *listerine*.' In another case of yours—a 'carcinoma of Douglas' cul-de-sac of the vagina,' lifeless in its nature, and considered by you a case in which operative procedures were out of the question, accompanied, however, by its characteristic malignant odor—at your suggestion, *listerine* was used with complete success, in the abolition of the odor entirely, so that the room of the patient was made pleasant for the victim of the disease, and more agreeable to the physicians and friends.

"In a case of tracheotomy, by Dr. J. M. Schley, *listerine* was used as a dressing with the best of success. Dr. L. L. Danforth used it after excision of the coccyx, which recovered speedily—*listerine* promoting the granulating process, and acting as an agent of importance in cleansing of the wound. From observation of its practical value in these and other cases, I can recommend it as a most valuable disinfectant, and worthy of the careful attention of an operator as a promoter of the

healing process, and in securing proper disinfection of the wound. I attribute much of its worth to the fact of its being a compound, and one that contains a number of most valuable agents of disinfection, and aids to the healing of wounds.

"It cannot but be regretted that its expensiveness will, to a certain degree, limit its usage, and surgeons thus be deprived of its medicinal qualities. Could this be overcome, its reputation will rapidly extend, and its introduction be largely increased.

"I again thank you for the kind remembrance, and remain,

"Yours most cordially,

"DR. JAMES W. WARD, *House Surgeon.*

"TO PROF. WM. TOD HELMUTH."

In addition to this I have employed the *listerine*, in the case of septicæmia following injury to a large and pendulous fatty tumor, in the dressing of ovariotomies; as injection, into old sinuses; and also in the preparation and preservation of wet specimens. In a remarkable specimen of removal of a parovarian cyst, showing the expansion of the broad ligament, the ovary and the Fallopian tube, I packed the cyst with absorbent cotton, saturated with *listerine* (one to four), and found it not only perfectly preserved, but flexible and soft (not hard and shrunken as we find in most preserved specimens) after several months. The cost of the article is rather against its general use in large hospitals, but in the smaller institutions and in private practice, it is worthy of general introduction.

### RESULTS AND COMPARISONS.

In conclusion, it is most important to look at the results of antiseptics in surgery, and this also must be briefly considered, although on this point, viz., the welfare of humanity, the whole subject must rest.

First, I will note MacEwen's cases, because they were treated in Glasgow, where Mr. Lister began his investigations and treatment; and second, because the experiments were made under the preconceived idea that hygienic treatment was all-sufficient in the treatment of wounds. In the years 1875, 1876, 1877, 1878 (five years), there were 1706 cases treated by aseptic method of which fifty died, giving a mortality of 2.93 per cent. During the same period, in the same number of wards, Dr. Morton treated 1884 cases without aseptic precautions and of these 110, or 5 84 per cent., died.

After Mr. Lister went to Edinburgh, from the end of 1871 to the middle of 1877, a period of about five and a half years, Mr. Lister treated aseptically 553 cases, of which 29 cases died. Mr. Spence, during the same time (five and a half years) was operating in the same hospital, using no very decided treatment, sometimes water dressing, sometimes boracic lint, and sometimes none whatever. In the 328 cases operated upon with 58 deaths, showing again a large percentage in favor of the antiseptics.

Again, if we turn to Mr. Lister's figures, after he had changed his residence from Edinburgh to London, where in King's College Hospital, from November, 1877, till November, 1880, a period of three years, he performed 207 operations, of which 14 died, a fair estimate of his success may be arrived at. As these last were performed by Mr. Lister after he had studied and improved upon his method for a period of thirteen years and in three hospitals the results, as bearing upon the present status of antiseptic surgery, are of the utmost importance, and therefore it may be well to mention the character and kind of operations performed. Thus:

There were three amputations of the hip-joint for disease, with one death. There were four amputations of the thigh for disease, of which three died. There were two amputations of the fore-arm, no death. There were sixteen excisions of the mamma, with two deaths. There were thirty-one operations in healthy bones for deformity, no deaths. There were eight abscesses, with one death. There were four cases of strangulated hernia, with three deaths. There were three operations for the radical cure of hernia, no death. There were three cases of acute necrosis, and one death. There were twenty-three large abscesses, no death. Two cases of empyema, no death. There were also cases of nerve stretching, castration, varicocele and tumors.

From a careful examination of these cases, it will at once be seen that in the same hospitals, with the ordinary run of cases, with the same surroundings, and in the same atmosphere, the percentage in aseptic treatment is almost double in its favor. This fact cannot be gainsayed, but we must *now* consider whether the aseptic method, Listerian in theory and practice; the *carbolic acid* treatment in its minute details, gives better results than the ordinary antiseptic methods as employed without the Listerian minutiæ by the majority of the profession at the present day. This is difficult to accomplish, and about the best way for me to place the subject properly is to give the statistics of the Hahnemann Hospital. These figures I have copied from the case book, and extend over a period from September, 1878, to June, 1883, being four and three-fourths years.

Among these were 17 amputations of the breast, and 1 death. There were 15 amputations, 1 of the thigh, 5 of the leg, 3 Symes, 2 Pirogoff's, 1 Chopart's, 3 fingers, with 1 death. There were 3 excisions of the rectum for cancer, with 1 death. There were 2 cases rectotomy, no death. There were 9 resections: tibia, 3; ankle joint. 1; elbow, 1; wrist, 1; coccyx, 1; ribs, 2, with no death. There were 11 ovariotomies, with 4 deaths. There were 17 abscesses, some of very large size, and no deaths. There was 1 case of empyema, and 1 death. Laceration of the perineum 22, with no death. External urethrotomy 11, with 1 death. There were 2 cases of internal urethrotomy no death. There were 9 cases of lipoma, some of large size, no death. There was 1 fistula of the thorax, 1 vesico-vaginal fistula, 1 recto-vaginal fistula, 1 perineal fistula. There were, 2 cases of Battey's operation, no death; 2 cases cystocele, no death. There were 9 rhinoplastic operations, 1 death.

There were 3 cases of supra-pubic lithotomy, 1 death. There were 5 cases of lithotrity, no death. Removal of superior maxillary 2 cases, no death. There was 1 extirpation of the uterus, 1 death. There were 56 cases of laceration of the cervix, no death. Besides these were 10 cases of herniæ, 16 cases of fistulæ in ano, varicocele, tracheotomy, 1 each, and others, making a sum total of 201 operations performed in the Hahnemann by the visiting surgeons, with the loss of 11 cases. There is no absolute Listerism practiced at the hospital, but antiseptics are used in the shape of *carbolic acid* solutions, the instruments carbolized, and *calendula, balsam of Peru*, the *bichloride of mercury* or any other antiseptic used that the operator may deem proper. One feature in the dressing is the *marine lint*, which I regard as an agent of the greatest value. The parts to be operated upon are washed with carbolized solution, the floor of the operating room is scrubbed, and the "ovariotomy room also ventilatated and disinfected after each operation." The instruments are first laid in *carbolized oil*, 1 to 40, over night, and then in shallow pans containing *carbolized water* $\frac{1}{20}$. An assistant is at hand to immediately wash an instrument which has been laid aside and replace it in the pan. Sponges are immersed either in a solution of *corrosive sublimate*, 1 to 2,500, or in *carbolic solution* 1 to 60. The wounds are closed with silver sutures carbolized. The silk is rendered aseptic and catgut is often employed. Salicylated India rubber plaster is the only kind used in the house, and after it has brought the edges of the wound in contact, a wad of *marine lint* is laid over the entire wound, spreading some distance around it, over this the protective gauze, and again over that a bandage is placed. These dressings are not touched until some indications for their removal is noticed, and often remain in position for days together. It will be seen, therefore, that our

statistics without the minutiæ are even better than that of Mr. Lister.

If, now, we compare all these statistics we can formulate the present status of antiseptic surgery :

| Operator and Location of Hospital. | Cases. | Deaths. | Per cent. |
|---|---|---|---|
| Glasgow : McEwen, five years, Aseptic treatment | 1,706 | 50 | 2.93 |
| Same Hospital : Morton, five years, Non-aseptic treatment | 1,884 | 110 | 5.84 |
| Edinburgh : Lister, five and one-half years, Aseptic treatment | 553 | 29 | 5.2 |
| Same Hospital : Spence, five and one-half years, Non-antiseptic treatment | 328 | 58 | 17.7 |
| London : Lister, three years, Aseptic treatment | 207 | 14 | 6.76 |
| New York : Hahnemann Hospital, four years | 201 | 11 | 5.47 |

So it will be found that in most hospitals the aseptic treatment, viz., Listerism, is abolished or greatly modified, and that the *anti*-septic treatment will probably give as good results as the *a*-septic, especially with proper hygienic surroundings.

## SOME REMARKS ON SKIN GRAFTING. *

By S. Wellman Clark, M.D., Jersey City, N. J.

It is difficult to present anything new on this method of treatment, but my aim will be to show some of its more important recent developments. When the opportunity for investigations in this line offered, I had never seen an account of the operation, nor could I, at the time, gain access to the literature of the subject. I had simply heard that skin could be grafted on granulating surfaces ; availing myself of the advantages of the New York Hospital Society Library, I find that in all radical points the method then adopted is that which the broader experience of surgeons has proven to be productive of the best results.

I will in this paper endeavor to give the method as briefly as possible, and also will refer to the latest steps in integumentary surgery. To this end I will first cite three or four of the more typical cases which have come under personal observation.

Case I. Mary Murray ; age 36 ; native of Scotland; married and domestic. Entered hospital October 3. About four weeks previous to her entry she had received a heavy blow at the hands of her drunken husband, upon the sternum and the inner portion of the left breast. This was followed by much discoloration of surface and the pains of bruised tissue. Surface became very soft and painful to touch. Fluctuation noticed along the left edge of sternum and over a space two inches in diameter situated at the upper and outer edge of mammary gland, between third and fourth ribs and one inch to the left of the nipple line. Tissue in supra-clavicular space at this time also became soft and painful, and after application of poultices, the abscess broke, discharging a large amount of pus. The tissue about this opening sloughed away, leaving an irregular ulcer about two inches long and one and one quarter inches broad. This was bathed in laudable pus. Surface covered with indolent granulations. Fluctuation continuing in the sternal and supra-mammary region, crucial incisions were made, laying open its cavity, accompanied with copious discharge of purplish pus. In a few days the flaps of this cavity had sloughed away. A dark purple line being found extending down along the external border of the gland, accompanied with fluctuation, an incision was made and a pus forming cavity laid open.

On entering the hospital she presented two ulcers, one superficial, over the external clavicular region, two inches in diameter and indolent in appearance, the other occupying the external and upper portion of mammary space and extending upwards and inwards to the para-sternal line. Just outside of the nipple line and extending down behind the mammary gland was a cavity about two inches deep, in the bottom of which pus was collecting. This had been packed with oakum. The granulation being healthy but cicatrization not extending, it was decided to cover the smaller surface with grafts of skin and to plant a number of grafts around the edges of the larger ulcer. This was done by raising the skin upon the left arm over the deltoid muscle with a very fine pointed forceps and cutting as small a portion of skin as was possible out from under the forceps. This graft, about half the size of an oat, was then placed with its deep surface down upon the surface of ulcer and pushed slightly down into the granulations. Clippings of this size and made in this manner were placed closely together within half an inch from the border of sound tissue and at distances from each other from one-quarter to three-eighths of an inch. These were arranged in rows across the face of the ulcer, and kept *in situ* by strips of adhesive plaster, heated and applied only to the healthy tissue. The whole was covered with lint soaked in *calendula*, one part of infusion to six of water. The grafts laid upon edges of larger surface were kept in place by adhesive straps, while the central cavity leading down behind the mammary gland was packed with oakum. On the following day the dressing of the sinus was changed, a large amount of pus being found in the cavity. The smaller ulcer was found to be bathed in good healthy pus. Surface irrigated with *carbolic acid* solution, one to one-hundred. Dressings not disturbed.

Two days after operation, the plaster was removed, and the grafts found to be all firmly adherent and buried in fresh, vigorous granulations.

On the day following, three days from time of application, the grafts seemed to be melting away, and not easily distinguished ; the whole surface had assumed a pink appearance. The sides of sinus were brought together by straps of adhesive plaster supporting the breast, and exerting a pressure at the bottom of the cavity.

On the eighth day a fine film of pink cicatricial tissue was found to be spreading from each graft as a centre, and from the circumference inwards. The diameter of the smaller ulcer was about two thirds of its original size, and granulations were only found in small spaces between numerous islands of new epithelial growth.

By the fifteenth the clavicular ulcer had entirely healed and the borders of the larger one was much contracted, leaving the sinus only, now one-half an inch deep, and granulating nicely.

Case. II. John Clancy had been in hospital for some months with indolent ulcer of leg. By great care and absolute rest it had been healed, but upon using his limb for a day or two the tissue would break down, and the tedious process of repair would again have to be endured. Upon the inner surface of the right leg was an indolent ulcer five inches long and two and one-half inches broad, occupying the entire middle and upper third. The edges were thin, with the bluish cast on the extreme border that accompanies cicatrization. The base of the ulcer was red and covered with offensive pus. Granulation seemed sluggish ; the reparative process was at a stand still. Ordered *permanganate of potash*, four grains to one ounce of water, to be used as a wash twice daily, and cloths over the ulcer to be kept saturated with it during the day. This had the effect

* Read before the N. Y. Society for Medico-Scientific Investigation.

of dispelling the unpleasant odor, renewing the activity of the granulations and placing the ulcer in favorable conditions for cicatrization. Still the reparative energy was wanting, the granulations tending to become exuberant, and the epidermis failing to proliferate new cuticle.

Grafting was decided upon as the method calculated to give the best results. Accordingly 18 to 20 grafts were taken from the opposite thigh in the same manner as above described, and placed in lines across the surface. These were not strapped on, but simply dressed by laying over the ulcer a piece of lint well covered with *vaseline*. This was changed very carefully every six hours, care being taken not to disturb the granulations. Forty-eight hours following the whole was irrigated with *carbolic acid* solution, one to one hundred, and some of the smaller grafts were found to have disappeared. The discharge of pus is still copious and healthy. On the fourth day, small pink spots, smooth and somewhat lower than the surrounding surface, had taken the place of the grafts. During the succeeding ten days these small centres of depressed tissue extended, involving more and more of the uncovered surface. At the same time, the line of cicatrization about the borders of the ulcer began to encroach upon the centre from all sides. This soon left the appearance of a rapidly healing surface, with islands of cicatrization studding it. Three weeks from the insertion of the grafts, the entire surface was covered with a soft elastic cicatrix which allowed of flexion and extension of the limb without apparent strain upon the new integument.

My supervision over him ceased in one month, and I am unable to report as to the durability of the reparative tissue. But when I saw him last there were no signs of breaking down and no feeling of tension, so common in recovery from large sloughing surfaces.

The third, and only other case I shall tax your patience with, occurred in private practice.

Case III. Jacob Stephens, aged 40. Married. A foundry man. October 20, while employed about the foundry, a large iron retort, weighing about 200 pounds, fell from its support, and in its descent struck him upon the inner and middle portion of the thigh and glanced off, making an extensive bruise about five inches long and four inches broad. This bruised tissue became black, dead and gangrenous, and suppuration set up around its whole border and at its base. In two weeks the sphacelus was movable, but still attached by its base, and during the third week separated spontaneously.

When I was called to see him, November 13, he presented an offensive sloughing ulcer, small parts of the sphacelus still adhering, but being melted away in the copious discharge of pus. The ulcer was one inch deep at its borders, and gradually shelved down towards its centre, where its base was from two to two and one-half inches below the surrounding tissue. To thoroughly cleanse and disinfect it, I ordered a wash of four grains of *potassium permanganate* to one ounce of water. November 17, the appearance of ulcer being very good, it was decided to graft the whole surface, but more especially the edges. There was such a loss of tissue in the centre that the advisability of grafting there was doubtful, but nevertheless the experiment was tried. The condition was exactly such as Dr. Hamilton, of Edinburgh, described as being best adapted to sponge grafting; but as Dr. Hamilton's article had not yet been received in this country, and only arrived four days after the application of grafts to this case, we were unable to use his suggestions.

Small pieces of cuticle were lifted from the fleshy inner portion of the opposite thigh, with Little's splinter forceps (which offer a very fine clasping surface) and were clipped off close to the instrument. These were placed about one inch from the border of ulcer, and three-quarters of an inch apart. The arrangements were made in lines, so that one strip of isinglass plaster would retain a number of grafts in position. Fifteen cuttings were applied, and most of them took successfully.

In two days, November 19, the plaster was removed, the grafts appearing healthy, as seen through its tissue, and the wound washed with *carbolic acid* solution and dressed with *vaseline*. Orders were given to have this repeated daily, and patient was not seen for several days.

*November* 23.—Cicatricial tissue was found to have formed in a line where the first row of grafts had been placed, one inch from the outer border of the ulcer, dividing it into two unusual portions. Three smaller islands had formed and were encroaching upon the granulations, and the pink borders thin and sharp, followed by the characteristic blue line, were being rapidly thrown out into the ulcer.

*December* 2.—The smaller division was now entirely covered with new epidermis, which was pink, soft, and elastic. The cicatrization of the larger portion is still progressing finely. The centre of the ulcer was much depressed, due to great loss of tissue by sloughing.

*December* 10.—The ulcer was now two inches long, and one inch wide, with the whole surface somewhat lower than the surrounding tissue. Dressed with *simple cerate*, and rest continued. Absolute rest has been enforced during whole course of treatment.

*December* 23.—Patient discharged with very small open surface about one-quarter of an inch in diameter.

*April* 23.—Has been working steadily for past three months, and has had no trouble from original wound. Cicatrix is soft and not contracted. Cured entirely.

I ask your indulgence for this long and uninteresting citation of cases, but I have wished to give them, as they illustrate many of the principles which govern this procedure. Just here let us look at the pathology of repair in ulceration.

There is apt to be some misunderstanding in the use of the terms ulcer and ulceration, and granulating surface; and in the foregoing description I have interchanged them freely. My authority is Billroth, who says, "an ulcer is a wounded surface which shows no tendency to heal," and "that every large granulating wound with few proliferations, which halts in the progress toward cure, may also be regarded as an ulcer."

The distinction between granulation and acute and chronic ulceration is only of degree. An acute ulcer is one where the recuperative action preponderates over the process of disintegration. A chronic ulcer is one where the process of disintegration is equal to or greater than the recuperative action. The position in the nomenclature is governed entirely by the condition of the tissue, without regard to the manner of formation, or the length of existence of the ulcer, but relative to its probable duration.* What condition do we find? Uniformly we have chronic inflammation, preceded by cellular infiltration of surrounding tissue.

Going back one step further we see the process from its origin.

The first change we see in irritated living tissue is, dilatation of the vessels. The immediate results of this is increased transudation, and a collection of white blood cells along the periphery of the vessel. Then the wall of the vessel is gradually softened by some unexplained chemical process that goes on in every inflammation, so that by their active movements the white blood cells gradually enter and finally pass through it.†

This is the process following simple irritation of tissue or a simple incised wound. What occurs when there is loss of tissue, through disintegration or forcible removal? Essentially the same changes as in the uniting edges of a wound.

The white blood cells wander through the walls of their vessels, and collect on the surface of the wound;

* Watson on Pathology and Treatment of Ulcers.
† Billroth, p. 63.

accompanied by the secondary action they induce plastic infiltration and inflammatory new formation. The exuded fibrinous material on the surface of the wound becomes soft and gelatinous, and at the same time the infiltrated tissue of the surface of the wound assumes the same peculiarities.* This plastic exudation forms a fibrinous network into which the young vessels—the prolongations of the capillaries—grow. "This soft connective tissue, even if only present in small quantities, holds together the cells of the inflammatory new formation, which constantly increase in number. The granulation tissue is thus formed; this is therefore a highly vascular inflammatory new formation. At first it grows constantly; the direction of its growth is from the bottom of the wound toward its surface. The tissue is, however, of different consistency in its various layers; its superficial surface especially is soft, and most superficially of fluid consistency, for here the intercellular substance becomes not only gelatinous, but fluid. This uppermost thin fluid layer which is constantly flowing, and being constantly renewed from the granulative tissue by cell exudation, is pus. Hence pus is, as it were, dissolved inflammatory new formation.†

The granulations become more and more elevated and the entire surface assumes a glassy gelatinous appearance. There is often at this stage a tendency to proliferation of tissue, so that measures have to be used to keep the granulations within bounds; on the periphery particularly, for the cicatrization has to commence from this point.

The following changes now take place: the entire surface contracts more and more—becomes smaller; on the border between skin and granulations the secretion of pus diminishes. First, a dry red border half a line broad forms and advances toward the centre of the wound, and as it progresses and traverses the granular surface it is followed closely by a bluish white border, which passes into normal epidermis. These two seams result from the development of epidermis, which advances from the periphery toward the centre, until finally it covers the entire granulating surface.‡

It is just here that we meet the whole difficulty. How shall we aid cicatrization? It is the testimony of all recent investigations in this branch of surgery, that a point is arrived at in the treatment of these surfaces where the native reparative energy is exhausted, and nothing stands in the way of a complete cure but the lack of stimulus to the reproduction of epithelial scales. Where shall this come from? The amount of work laid upon the borders of the ulcer has overburdened it. It fails to reproduce its own with sufficient energy. Epithelium cannot originate *de novo*. Reason demands that we accept the proposition that "a living substance possessing formative power can only produce its kind." Then why make cicatrization an exception to this general law of Nature? There are but a very few—two or three—cases where cicatrization is claimed to have extended from the centre toward the circumference, and these cover in all probability cases of accidental epidermic grafting. Although Paget entertains this idea, Billroth is very decided in his conviction that it is only true in cases where portions of cutis with rete Malpighii have remained in the midst of the wound.

But if there be no such remnant of rete Malpighii, we never have these islands in the cicatrix, the formation of epidermis only takes place gradually from the periphery of the wound towards its centre.

What now can seem more rational than the transplantation of portions of live epidermis containing rete Malpighii? The granulations are just waiting for this stimulus, and are ready to set up a vascular supply to the visiting tissue. Adopting it as its own, the epithelial scales will be propagated, and cicatrization goes on.

Now for a few observations on the method. To M. Reverdin belongs the honor of first applying this theory in actual practice, unless we grant Dr. Frank Hamilton's claim of 10 years' priority. G. D. Pollock, in the *Trans. of Clinical Society, London*, 1871, Vol. IV., gives an account of the first effort made in this line in England by himself and follows with these brief deductions.

The surface of sore must be healthy. "Decomposition must be stopped and granulation red, firm and vigorous." Small pieces of skin are found to give much better results than larger pieces. There is less tendency to decomposition and death of edges of graft.

The greater portion of the epithelial layer is often noticed to slough off, giving the appearance of destruction of graft, while in reality the deep layer is retained from which is propagated new epithelial cells. "The growth has appeared to be more rapid on the sides of the grafts near the original edges of the sore." The cicatrix thus formed is much softer and not so densely stretched as that produced unaided by grafting.

All of these deductions I had observed in the series of twenty-one cases under my care.

Several of these were in an eminently unfit condition for grafting, but even in these, there was a favorable impression received. When there was any indication for the operation the results were in every instance favorable, and the benefit was in direct proportion to the smallness of the graft, and the number applied. Of course there is a limit to the decrease in size; pieces as large as an oat offering the best results in my experience.

In two cases epithelial scales were applied in the following manner. Scrapings were made from the surface of leg, and the epithelial scales collected on a piece of writing paper, and dusted over the surface. In one of these there was a marked stimulation, and the ulcer went on to recovery. The other, for some reason, received little effect. I suspect the limit was used surreptitiously, and its progress retarded. I adopted the plan of putting the grafts on in rows so that as little plaster might be used as absolutely necessary, for the retention of discharges is dangerous to the healthy development of the grafts.

Dr. Watson, of Jersey City, has pointed out that the accumulation of discharge raises the plaster from the surface of the ulcer and as the graft adheres to the plaster, carries it away from the granulations and thus aborts the curvative effort. Arrange the grafts in lines across the ulcer, so as to make the rows as short as possible, and cover with thin strips of isinglass plaster; *thin*, as it is only necessary to hold the position of the clippings, and no pressure is used: and *transparent* plaster, so as to be able to watch the growth of the transplanted tissue.

One of the sources of discouragement most frequently met with, and which in some cases seems almost insurmountable, arises from the fact that the copious flow of pus washes away the graft before it can become adherent. This is at times so great as to soften and carry away the plaster laid across the surface. If the tissue is still breaking down, all idea of grafting should be abandoned until healthy reparative action is again instituted. The cases to which I now refer are those in which the whole surface is in a state of activity, the reproductive power of the epidermis exhausted, and the ulcer bathed in healthy but a superabundant flow of pus.

In speaking of this difficulty to Dr. F. C. Fuller, late house surgeon at Bellevue Hospital, he suggested the plan of simply covering the grafts with a thin gauze, or better, mosquito netting well lubricated with vaseline. This gives an opportunity for the escape of all discharges, yet prevents the graft being swept away. When the new tissue is adherent the ordinary means of dressing may be returned to.

Dr. C. Bartlette, of Waterbury, Conn., has added his experience to the mass of experimental knowledge. From it we learn that for the full measure of success, the grafts should be but little separated from each other, and near the edge of the exposed surface. In this way,

* Billroth, p. 74. † Billroth, p. 74. ‡ Billroth, pp. 71 and 72.

he says that the slightest tendency to contraction is overcome. He also states a fact, which if corroborated, will prove of much clinical value, *i. e.*, that the pieces have a firm growth until about three times their size when planted. This will give the key to the required size and proximity of the grafts.

Guyon, one of the earliest investigators, gives the time or condition as most favorable for grafting, as that in which the surface is granulating healthily, and when cicatrization is seen commencing at the edges.

Dr. G. A. Van Wagenen reports a case in the *Illustrated Quarterly of Medicine and Surgery*, in which the grafts were taken from an amputated limb, one hour and thirty-five minutes after the operation. The limb had been wrapped in flannel and kept warm by steam pipes in the meantime. The skin was then raised between the finger and thumb and a thin slice cut from its apex, with a sharp, well-moistened scalpel, similar to the method used in cutting microscopic sections.

Dr. Girdner, of Bellevue Hospital, reports in *Medical Record*, N. Y., 1881, Vol. 20, a case in which he grafted a large ulcerated surface on a boy scorched by a stroke of lightning, taking the grafts from the body of a German who had died by suicide. The operation was performed the first hour following death, and was eminently successful, several hundred grafts being taken and most of them living.

The foregoing embodies my reasons for advocating skin grafting as the remedy *par excellence* for tardy granulating surfaces. Its pathology seems rational, the practical deductions logical, and certainly the clinical experience, as far as I have been able to ascertain it, makes the neglect to employ it when other means fail inexcusable.

I cannot close without bringing to your notice, as briefly as possible, the recent development made in cellular tissue surgery by Dr. Hamilton, of Edinburgh. He presents the subject very ably in the *Edinburgh Medical Journal* for November, 1881. He starts by saying that the vessels of granulating surfaces are not newly-formed, but are simply the superficial capillaries of granulating surfaces displaced.

These vessels are thrown up by the propelling action of the heart, because the restraining influence of the skin is removed. One important function of the skin, he claims, is to counteract this tendency, and hold capillaries in place.

In closing two wounded surfaces, there is always included a blood clot or fibrinous exudation. This acts as a foreign body, until organized and that organization can only be effected by the propulsion of the capillaries into its tissue. A vascular cicatricial tissue replaces fibrinous exudation or blood clot, when this takes place. This vascularization is not owing to new formation of blood-vessels, but to its permeation and penetration by the capillaries or granulating tissues—the fibrinous net work of the clot supporting the proliferating vessels as a trellis.

Dr. Hamilton thought that if it were possible to use some dead porous animal tissue instead of fibrinous lymph, it would become organized. Searching for a substitute he lit upon sponge, as being just adapted to carry out his views. Its porous nature imitated the fibrinous net work in lymph, or blood clot. It is composed of animal tissue and like cat gut would in time be absorbed. It was also mechanically adapted, *i. e.*, it could be prepared properly and cut and fitted nicely without injuring its structure. If the blood clot acts mechanically, sponge should do as well.

The first case occurred at Chalmers' Hospital, in the summer of 1880. Patient presented several ulcerated wounds, one situated on the outside of the leg, with edges indurated, raised and undermined. In the centre of base is a small spot of cellular tissue slough. The rest of the surface is granulating. *Aug.* 3—Wound was filled with piece of very fine sponge prepared by dissolving out the *silicious* and *calcareous salts*, by means of a dilute mineral acid (*nitro-hydrochloric*,) and afterward washing thoroughly in dilute *liquor-potassæ*. The sponge is then soaked in a solution of *carbolic acid* one part to twenty of water.

In this case the sponge was five inches wide and in the centre three-quarters of an inch high. Its surface rose very little higher than the edges of the sound tissue. This was made to fit exactly and then covered by green protective. Over this was laid lint soaked in a solution of one part of *carbolic acid* to twenty of *glycerine* and *tincture of lavender*. Over this again was laid a pad of boracic lint and a bandage over the whole. Limb was kept at rest. Next day the sponge was soaked partly with purulent discharge.

*Aug.* 5.—There was decided putrefactive odor. Wound was irrigated with *carbolic acid* one to forty—and *oakum* placed over the *glycerine* and *carbolic acid* dressing.

*Aug.* 6.—Surface irrigated and waste products gently squeezed out. Whole sponge soaked and adherent.

*Aug.* 8.—Wound is shrunk a little. The thin parts of sponge felt very firm. Interstices filled with organized tissue. Healing is going on from edges to centre and from below upward. *Iodide of potash* administered internally. No difficulty in getting epithelium to spread over it wherever underlying surface was filled with young vascular tissue elements.

*Nov. 29th.*—Only small piece of sponge to be seen upon surface. This limb on measurement proves to be twenty-one inches in circumference against nineteen inches, which is the size of the normal limb. This is not from œdema, for a bandage has been applied during whole of the experiment.

*Jan.* 5, 1881.—There is now only one inch and a half of healthy granulating surface.

The sponge has filled the vacuity caused by cellular tissue slough, and the reparative material has grown into it. Dr. Hamilton goes at length into the microscopic changes, but I have already transgressed by making long quotations.

He recommends this method where there have been extensive cellular tissue sloughs, with much loss of substance.

With this startling development who can tell where auto- and hetro-plastic surgery will end? We dare not predict.

## HOW TO STUDY ELECTRICITY.

By Ciro de Suzzara Verdi, M.D., Washington, D.C.

Perhaps the old saying that "there is nothing new under the sun" may be as well applied to electricity as to any other physical forces; but at the same time we cannot deny that its application in medicine is comparatively new.

Undoubtedly, this wonderful agent has proved a very great therapeutical remedy in the hands of those who have acquired skill in its use and knowledge of its physiological effects. The practical demonstrations of Matteucci, Ciniselli, Duchenne, Remak, and many other stars not less brilliant as philosophers and physicists, as Du Bois Reymond, Humboldt, Faraday, etc., have taught us what electricity is, its use and its wonderful phenomena.

Unfortunately, many unscrupulous and ignorant charlatans have used it as a trade, thus prejudicing the minds of medical men against an agent of so great value in the science of therapeutics.

Medico-surgical electricity is a science of itself, and should be studied with patience and perseverance like any

other science, and therefore I am of opinion that it must be studied from the very beginning in order to impress upon the mind of those who desire to employ it the great necessity of knowing its nature, its various forces, and its effects.

First, electricity is simply a term denoting molecular movement, *i.e.*, attraction and repulsion, either by friction or chemico-dynamic decomposition of solids or fluids.

For our purpose, however, it is only necessary to study artificial electricity, thus avoiding the field of the physicist, and the broader study of general physical electricity; hence, we shall commence to study the various instruments and currents in use, and leave the details to text books with which every student should make himself acquainted.

The batteries generally in use are those composed of zinc and copper or zinc and carbon, connected with various chemical agents, *i.e.*, *sulphate of copper* and *sulphuric acid*, *chromate of potassa* and *sulphuric acid* and *nitric* and *sulphuric acid*, *chloride of mercury* (with water) It is of course well known that the copper attacts oxygen, the zinc plate hydrogen, thus setting up a molecular action and hence a movement of molecular forces, (called electric force). The *chloride of mercury* takes up the oxygen from the water and becomes an *oxide of mercury;* the hydrogen goes to the *chlorine* and forms *muriatic acid*, so we see a molecular action in the solution of the *chloride of mercury* and thus the chemical decomposition taking place, separating the metaloids from the acid; the former going to the zinc (negative pool), the latter to the copper (the positive.) All the batteries and chemicals so employed act on the same principle.

There are three kinds of electricity, viz., static, contact, and induction electricity. In the first, by friction, we disturb the molecular equilibrium, and molecular action ensues. Contact or galvanism is produced by bringing into contact two dissimilar agents, whether solids or fluids.

The induced Faradic current is generated from a galvanic instrument, by rolling a second wire by the first, and is called Electro dynamic, also Galvano-Faradic.

The second or Faradic current proper proceeds from a single wire rolled around a magnet, and it is called Electro-magnetic.

We read of an extra current, which was found to be generated by the first or primary current, and this is taken up, increased, and interrupted by the second wire, hence a secondary or induced current is the result. These various mechanical arrangements produce currents of different intensity, and have different physiological effects well demonstrated by Dove, Faraday, Duchenne, and others. For further details, see text books which give the necessary scientific explanations.

Having learned the instrumental-physical phenomena of the different currents, we must pass to the proper uses of these forces; their intensity, their quantity, and relation to disease.

The only means at our hands to measure their strength, intensity, and quantity are as follows: the quantity by Ohm's law; the strength by the galvanometer; the intensity by the dynamometer. These are indispensable to all of us who employ electricity as a medico-surgical agent.

Electrolysis is derived from galvanism, and is generated by one or a few large plates, because it has been found that to produce sufficient caustic effect an intense heat is necessary, and that only large plates and strong chemical elements, like nitric and sulphuric acids, will answer. Gustave Crussel is the inventor of electrolysis. Middeldorpf and John Marshall also demonstrated the practical usefulness of the instrument. Now we have also the excellent instrument of Drs. Piffard & Stöhrer.

Much of the success of electrolysis depends upon the battery, the skillful management of it, and the knowledge of the chemical action of electricity in decomposing organic fluids, and the thermic effects produced by a constant current.

In my next article I shall endeavor to write upon the subject in a medico-physiological sense.

## ALCOHOL AND ACCIDENTS.

By H. M. Lewis, M.D., Brooklyn, N. Y.

The principal predisposing cause of accidents, such as are treated in hospitals, is alcoholic intoxication. Despite the hazardous occupations of such as work in factories, foundries, and machine shops, exposed to all the unavoidable dangers attendant on machinery in motion, the workingman out for a holiday, and more or less drunk, is in greater danger of accident to life or limb, as he saunters on the street or rides in the cars, than when he soberly follows his usual avocation, surrounded by buzzing saws, revolving shafts, and whirring wheels. I venture the assertion that three-quarters of the accident cases brought in by the ambulances are drunken men or women, and, further, that if this predisposing cause could be altogether banished, the wants of the sick poor could be as well supplied as now with one-half the present hospital accommodation.

In Vol. I. of the "International Encyclopædia of Surgery," in an article on the Reciprocal Effects of Constitutional Conditions and Injuries, by A. Verneuil, M.D., Professor of Clinical Surgery in the Faculty of Medicine, Paris, we read: "Chronic alcoholism is a predisposing cause of injury. The drunkard has hallucinations, and a tendency to suicide; he readily loses the sense of self-preservation, and commits, even when fasting, a host of extravagances. The keenness of his senses is diminished, as well as the promptness and precision of his protective and defensive acts. If hard drinking and drunkenness should disappear, we could dispense with one-third of the beds in our surgical wards."

This applies as well to New York as to Paris, and doubtless, is universally applicable. It was so when the wisest of men was inspired to ask, "Who hath woe? who hath sorrow? who hath contentions? who hath babbling? who hath wounds without cause?" and it, doubtless, will continue true for all time to come. If it was the drunkard alone who suffered, we might find a grim satisfaction in the retribution, but, unfortunately, this is not always the case. His rum-awakened malice, or the imbecility born of drink, make him a positive element of danger to all near him. The beer-sodden and reckless driver of a brewer's wagon, or the more cultivated and more culpable sot who commands a ship, are types from the extremes.

We are not infrequently called upon to treat ordinarily temperate men who are deeply under the influence of liquor, administered after the receipt of their injuries, by well meaning, but ignorant, by-standers. With this class of amateur practitioners, whiskey is a universal panacea for wounds of all degrees of severity. Diagnosis and prognosis in these cases is made difficult, often impossible, and though the effect of the poison is transient, it is peculiarly pernicious while it lasts. One feature here is ordinarily the profuse hæmorrhage which takes place, where the nature of the lesion is such as to make bleeding probable. The stimulation keeps the flagging heart pumping the precious fluid away to waste, and, in this way, a primarily hopeful case is carried past all surgery.

The mental condition of a wounded inebriate, when he comes back to the moiety of sense he may still command, is usually one of remorse, and the depressing reflection that he has at last fulfilled the prophecies of

his friends, is no mean element in the prevention of convalescence. Aside from this, however, the chances of recovery in a wounded drunkard are much less than those of a temperate person.

Chronic alcoholism profoundly affects all the tissues and functions of the body. The digestion is impaired, the nervous system unstrung, and the circulation defective. The patient is altogether unfitted to withstand the long confinement and comparative fixedness which conservative treatment often necessitates, and equally unfitted for more heroic measures. This unfitness of the intemperate to bear surgical operation is universally recognized. Prof. Gross says: "Intemperance of every description, especially if long continued, modifies the constitution and renders it less able, as a general rule, to bear the shock and subsequent effects of an operation, than in ordinary cases. In habitual drunkards *mania a potu*, erysipelas and unhealthy suppuration are of frequent occurrence after the use of the knife." Erichsen writes: "That combination of debility and irritability, the consequence of the habitual excess of alcoholic stimulants, commonly met with in the inhabitants of large towns, renders them peculiarly unfavorable subjects for operation." In patients of this class suppuration is apt to be profuse and exhausting. Sloughing follows comparatively slight injury. Repair takes place slowly or not at all, and the patient readily lapses into a state of more or less chronic septicæmia. There is a reciprocal aggravation of alcoholic diseases from injury. Surgical fever lights the lurid fire of delirium tremens, furious mania supervenes, the injured parts enormously swell, rapidly run into a gangrenous condition, and the patient dies, presenting much the appearance of the last few hours of life in typhoid fever. Compound, or even simple fractures of the lower extremities, are not infrequently fatal in drunkards. The "whiskey leg," as it has not inaptly been termed, more often carries the patient to the grave than to recovery. In the more favorable class of cases recovery is long deferred. Where fractures occur and the limb is ultimately saved, it is often only after months of weary waiting, and at the expense of a degree of care that seems almost unwarranted on such miserable subjects; or if an amputation be performed, the recovery is equally slow and the resultant stump often irritable and unsatisfactory. Anæsthesia is poorly borne by drunkards, and where delirium is present, is scarcely permissible at all.

A consideration of the profound influence and lasting changes wrought in the organs and tissues of the body readily explains the unfavorable outlook for these unfortunates. Chronic alcoholism implies disordered digestion and perverted nutrition universally. The irritable nervous system intensifies shock. Alcohol paralyzes the terminal arterioles, and the blood, no longer meeting a normal resistance, fails to circulate properly through the vessels of the heart itself, in consequence of which its muscular structure becomes flabby and inefficient, and this, doubtless, is the true explanation of some sudden deaths from syncope during or immediately after operations. Alcohol produces atheroma of the vessels and fatty degeneratian of the liver, predisposing to secondary hæmorrhage. It impairs the structure of the kidneys and prevents the elimination of noxious elements from the blood. The albuminuria, often directly traceable to alcoholic stimulation, not seldom hopelessly complicates an otherwise promising case. To again quote from Dr. Verneuil: "When we remember that alcohol produces three principal lesions, to wit, fatty degeneration and cirrhosis in the parenchymatous organs, and atheroma in the vessels, and that in inveterate drinkers all the tissues and organs are more or less deteriorated, and all the functions more or less compromised, we may understand that death may occur in several ways, and, in some manner, through all the more important organs."

## *CLINIQUE.*

### REPORT OF AUTOPSY IN A CASE OF ASCITES CHYLOSUS.*

By J. Montfort Schley, M.D., New York.

About three years ago I presented to this Society a detailed history of this case and showed some of the chylous fluid recently aspirated. Some of you, doubtless, remember its peculiar milky appearance. Dr. G. M. Dillow made a careful examination of sample, chemically and microscopically, and found it to contain all the elements peculiar to chyle. (Carpenter's Physiology.) I examined the effusion repeatedly, and satisfied myself beyond any doubt that it was chylous fluid.

I have seen Mr. H. often since 1880. He has had several attacks of bronchitis diffusa, severe in their character, which yielded, however, promptly to homœopathic medicines. His bronchial troubles were most tedious when his abdomen was most distended.

In the summer of 1882, you will notice by looking at the dates of tapping, that he went nearly two months without any operation. At that time he suffered from a most profuse diarrhœa, and the matter voided looked much like thick chyle.

Since December, 1882, his strength has gradually failed, and it was a great effort for him to go up and down a short flight of stairs and to get in and out of his carriage. After the tapping of December 22 and January 6, there were some signs of peritonitis for a few days, with fever, tenderness of abdomen, etc., which weakened him a great deal. I saw him alive for the last time on February 16. He was suffering from a diffuse bronchitis, dyspnœa, fever, great exhaustion, and, for the first time, his pulse was feeble and irregular. On February 22, in the night, he turned over in bed and expired.

The most interesting feature of his case is the long time patient survived his first tapping, and this is the more remarkable when we remember that nearly one-half pint of chyle daily escaped into the abdominal cavity. In the other cases of this malady, reported in different journals and partially tabulated by myself (*North American Journal of Homœopathy*), the patients, after one, two or three of these tappings, died of exhaustion, one case living five months from first operation. This patient lived longer than any of the rest. Mr. H. drank large quantities of milk daily, and this being absorbed mostly *in loco*, may account for his non-emaciation and continued strength. Dr. Gamgee, in his lectures on digestion (*Lancet*) asserts that water, soluble salts, peptones and sugar are absorbed directly into the blood for the most part, while the fats enter almost exclusively into the lymphatics.)

During his life time I could detect nothing *positive* as cause for this leakage.

The table on the next page shows the number of times, etc., that patient was aspirated.

It will be seen that the patient was aspirated thirty-four times in two years and four months, and that about 225¼ quarts, weighing 597½ pounds, were removed, and if we were to fix an approximate amount for the first few times, when fluid was accidentally thrown away, we may safely estimate that over 650 pounds were withdrawn,

*Autopsy.*—Fourteen hours after death. Face œdematous and pale, rigor mortis well marked. Lower extremities œdematous, eczematous patches, blood vessels distended. Protuberant abdomen, umbilical hernia. Left chest muscles thicker than right, and in precordial region decided bulging. On section, abdominal and chest muscles atrophied, adipose tissue slight, large

* Read before the Homœopathic Medical Society of the County of New York.

quantity of ascitic fluid escaped on cutting through peritoneum Old adhesions of right pleura, small quantity of serous fluid in right pleural cavity. Lung crepitates. Evidence of bronchitis in smaller bronchial tubes.

| | Size before tapping. | Size after tapping. | Quarts. | Pounds. |
|---|---|---|---|---|
| Tapped Oct. 9, 1880 ... | 47 in. | 37 in. | 15 | ..... |
| Tapped Nov. 19, 1880 ... | 47 | 39 | 13 | ..... |
| Tapped Dec. 20, 1880 .... | 45 | 40 | 12 | 25 |
| Tapped Jan. 16, 1881 .... | 45 | 37 | 12¾ | ..... |
| Tapped Feb. 12, 1881 .... | 47 | 39½ | 13½ | 27½ |
| Tapped Mar. 17, 1881 .... | 46 | 40 | 12 | 25 |
| Tapped Apr. 10, 1881 .... | 45½ | ..... | 12½ | 23¾ |
| Tapped " 27, 1881 .... | 44½ | ..... | 8 | 15¾ |
| Tapped May 17, 1881 .... | 46½ | 39 | 12 | 23½ |
| Tapped June 6, 1881 .... | 46 | 40 | 12 | 25¾ |
| Tapped July 2, 1881 .... | 46½ | 39½ | 12½ | 23¾ |
| Tapped " 23, 1881 .... | 46 | 40 | 11½ | 22 |
| Tapped Aug. 18, 1881 .... | 45½ | 39½ | 11 | 21¼ |
| Tapped Sept. 17, 1881 .... | 45 | 40 | 9¾ | 18¾ |
| Tapped Oct. 14, 1881 .... | 43⅝ | 39 | 8 | 15¾ |
| Tapped Nov. 12, 1881 . | 45 | 39 | 9¾ | 18¾ |
| Tapped Dec. 15, 1881 .... | 45½ | 39½ | 9 | 18 |
| Tapped Jan. 13, 1882.... | 45½ | 39 | 9½ | 18 |
| Tapped Feb. 10, 1882 ... | ..... | 38 | 8 | 15¾ |
| Tapped Mar. 6, 1882 .... | 43 | 39 | 7½ | 15½ |
| Tapped Apr. 9, 1882.... | 43 | 39 | 8 | 15½ |
| Tapped May 5, 1882 .... | 44 | 39 | 9¾ | 19 |
| Tapped " 29, 1882.... | 44½ | 39 | 8 | 15¾ |
| Tapped June 24, 1882.... | 45 | 39 | 9 | 17¾ |
| Tapped Aug. 17, 1882.... | 43½ | 39 | 8 | 16 |
| Tapped Sept. 8, 1882.... | 44½ | 39 | 9 | 18 |
| Tapped " 27, 1882 .. | 45 | 39 | 9½ | 18 |
| Tapped Oct. 19, 1882.... | 44½ | 38½ | 8½ | 16 |
| Tapped Nov. 16, 1882. .. | 46 | 40 | 10 | 20¼ |
| Tapped Dec. 6, 1882.... | 46 | 40 | 9¼ | 18½ |
| Tapped " 22, 1882.... | 46 | ..... | 9¾ | 19 |
| Tapped Jan. 6, 18 3.... | 46 | ..... | 10¼ | 20 |
| Tapped Feb. 2, 1883.... | 45 | ..... | 8⅜ | 17 |
| Tapped " 16, 1883.... | 45½ | ..... | 8½ | 17 |

Heart enormously enlarged, transversely extending over into right thorax and down into axillary region. Pericardium thickened throughout and extensive adhesions between visceral and parietal portions. Large fibrinous clots in all cavities. Left ventricle enormously hypertrophied (excentric), left auricle enormously dilated and hypertrophied, right ventricle and auricle hypertrophied. Thickening of edges of mitral and tricuspid valves. Nothing about heart was sufficient alone to cause regurgitation of chyle. Extensive adhesions and thickening of pleura of left side. Lung one-fourth less in size than on right. Fibrous phthisis of upper lobe well-marked—not quite as marked in lower lobe—dilatation of bronchia. Liver small, pale, capsule thickened, pitted on upper surface and covered with a creamy-looking deposit. Mesentery much thickened and large quantity of fat at its attachment to the vertebral column.

No dilated chylous ducts were found on cutting through different portions of mesentery. Stomach distended and pushed over to the right side. Left kidney three times normal size—capsule dense and adherent—enveloped in fat and at its upper surface firmly attached to spleen, which is pressed firmly against the vertebral column and bound down by strong adhesions. It was with the greatest difficulty that these two organs could be torn away from their adhesions. They were attached to under surface of diaphragm. In passing the hand over the lowest anterior portion of spleen the finger slipped into a small opening from whence chyle flowed freely. The left kidney contained an uric acid calculus the size of a large blackberry. Right kidney contracted and much smaller than left and adherent to liver. Two small gall stones. Spleen normal in size and color.

The cause of this continuous escape was due solely, in my opinion, to the pressure exercised by the adherent kidney and spleen against the vertebral column, just below the diaphragm, and occluding the lumen of the chyle duct. This duct was sought for, but not found. All the tissues in the thorax were carefully cut through down to the vertebra, but no chyle escaped. The receptaculum chyli was not sought for. The thickening in the mesentery was not sufficient to produce obstruction of chylous and lymphatic channels.

Doctor Bryan and I made the post-mortem by candle light, under constant fire from the family to get through with our work.

Since submitting the above, I have run across the following articles and notices :

In the London *Lancet*, of January, 1883, in a report of the West Bromwich District Hospital, under Mr. Langley Browne, we find a very meagre and unsatisfactory history of a case of typhoid fever dying of early perforation, where a chylous (?) looking fluid was found in the abdominal cavity. No examination, chemical or microscopical, was made of effusion so we may simply look upon the case as one of secondary peritonitis with probable extensive fibrinous deposit.

At the twelfth Congress of the German Surgical Society, held in Berlin, April 4, 1883, Dr. Boegehold (Berlin) presented an article on " Injuries of the Thoracic Duct."

At a stated meeting of the Medico-Chirurgical Society, of Montreal, February 16, 1883 (*Medical News*), Dr. Rossa showed a bottle full of milky-looking fluid, which had been removed from the peritoneum of a lad under his care, who had albuminuric anasarca. The abdomen was much distended, and several pints of fluid were removed. There were no formed elements in the fluid."

In the *Annals of Anatomy and Surgery*, May, 1883, we find an interesting and instructive article on " Chylocele of the Tunica Vaginalis Testis, with a Case," by William M. Martin, of Mobile, Alabama. This is one of the most satisfactory articles on an unnatural escape of chylous fluid that I have read.

The *chemical and microscopical* examination of the effusions leave *no room for doubt* as to their being chylous. All the cases cited—four in number—beside the one of Doctor Martin, deal exclusively with chylous affections of the scrotum and its contents. Their causes—as climate, living in southern latitudes repeated gonorrhœa, filariæ, age—are discussed, and some deductions drawn that may be of service to readers of the paper.

New York *Medical Journal*, March 3, 1883, contains a brief notice on " Chyluria and the Filaria Sanguinis."

Dr. Paul Zur Nieden, in *Deutsche Medicinal Zeitung*, No. 7, 1883, relates a case of lymphangiectasis and lymphorrhagia, in a young girl. A milky fluid was exuded from the labia in such great quantity that at one times she is said to have collected over two pints in four hours. This was controlled by rest in bed. The fluid was of alkaline reaction and contained only a few lymphoid cells, but very numerous fat globules.

Treatment consisted in the removal of portions of the labia with the galvano-cautery.

Nov. 26, 1883.

## OBSTETRICAL MEMORANDA.

By Sheldon Leavitt, M.D., Chicago.

### XIV.—THE PRIMARY OPERATION FOR RUPTURED PERINEUM.

Dr. T. C. Smith read a paper on "Rupture of the Perineum," before the Washington Obstetrical and Gynecological Society, at a recent meeting, which elicited some very excellent remarks on the question of the immediate operation for repair. To make these perspicuous and forcible I have arranged them under sub-heads as follows :

*Frequency of the Demand for the Operation.*—The question of the frequency of perineal laceration is one upon which practitioners are not wholly in accord. The most skillful obstetricians of the day, who have taken

the pains to make thorough observations, unite in declaring that rupture, generally slight, takes place in a large percentage of primiparous cases; but there are some who pride themselves on their obstetric knowledge and experience who would have us believe them the veriest prodigies in the way of preventing such accidents. I am convinced that there is not so wide differences in experience as some would have us believe; but the solution of the problem lies in the direction of thorough post-partum examination. "Many cases are delayed," remarked Dr. Ashford, "because the rupture was not discovered at the time, and this was due to neglect of the physician to make an examination immediately after labor in order to discover whether such an accident had taken place." Where is the physician who treats women's diseases that does not often find laceration of the perineum even in the second degree? We all know, too, that many such patients come from the obstetrical care of those who claim to have few such accidents in their practice.

*How soon after Labor should the Operation be Performed?*—Dr. Ashford limited the time within which the primary operation should be performed to twenty-four hours, but he regarded the best time to be within six hours. Dr. C. E. Hagner did not believe that stitches would do any good after thirty-six hours.

My own advice in the matter would be to operate within five or six hours after delivery, or not at all primarily. Our aim should be to close the wound as soon as we conveniently can.

*Will Rupture Surely Occur in a Subsequent Labor?*—Dr. Hagner stated that he had seen several cases where the perineum had been restored and the patient subsequently delivered of several children without laceration. Dr. Ashford remembered a case where, in a subsequent labor, the rupture did not take place in the line of union, but adjoining it.

There is little room for doubt that a perineum which has once suffered laceration is more likely to give way than one which has never been torn. But there is a difference in this regard between a perineum repaired through primary intention and one repaired by the secondary operation, the latter being much more likely to suffer a second time.

*Should Complete Rupture be Repaired at Once?*—There appears to be some disagreement on this point, even among the advocates of the primary operation. I have no experience to record; but should such an accident happen in my practice I would certainly suture the wound. Dr. C. E. Hagner said that the most alarming-looking rupture he had ever seen recovered perfectly after a primary operation, though at the time the woman was œdematous, suffering from albuminuria and had had many convulsions.

*Why Primary Union is not always Secured.*—"Immediate operations sometimes fail," said Dr. J. T. Johnson, "because they were too hastily and imperfectly performed." My own experience has convinced me of the truth of this observation. Thoroughly cleanse the parts, secure perfect coaptation, and insure firm support by putting in deep stitches with silver wire, and with ordinary general care the wound is almost sure to repair by first intention.

*Should the Woman be Placed under Anæsthetic Influence?*—We may say what we will, the operation, though performed at once, is a painful one, and few women bear it well without anæsthesia. Narcosis need not be deep, if the operator has sufficient assistance to control the patient; but a minor degree of insensibility ought, in mercy, to be afforded. If the accident has occurred during instrumental delivery, wherein anæsthesia has been induced, we have but to prolong the influence. Contra-indications may exist in particular cases.

### XV.—DOES USE OF THE FORCEPS NECESSARILY AUGMENT THE RISK OF PERINEAL LACERATION?

In the discussion to which reference has been made, Dr. Ashford said that in most of the cases which he had seen the rupture had occurred when the forceps had been used, *i.e.*, when there was need for their use, such as impaction or malposition of the head. Thus, the occiput being behind, and sweeping over the perineum, led to excessive distention and rupture. He adds that it is not fair in these cases to attribute the rupture to the use of forceps, since it is rather the result of causes demanding the use of the instrument. The relative frequency of perineal rupture in connection with instrumental delivery proceeds, as I believe, from ignorance, inexperience, carelessness, or hurry. The forceps when properly used, are conservators of the perineum.

*Is Removal of the Blades at the Vulva Advisable?*—Some obstetric practitioners advocate removal of the forceps at the vulva as a preventative of perineal laceration, while others aver that the instrument, when properly applied and carefully managed, is capable of affording protection to the vulvar structures, and ought not to be removed. Neither class of teachers is altogether right. "Circumstances alter cases. If we have followed the pelvic mode of application, the fœtal head is probably embraced over the poles of an oblique diameter—that is to say, one blade lies upon the brow, and the other behind the ear of the opposite side. But sometimes the head is somewhat rotated in the process of getting the blades into position, so as to lie in the transverse pelvic diameter, and the result is an adjustment of the instrument over the face and occiput. In either case, when rotation takes place in the pelvic cavity, and the head approaches the vulva, one blade lies in the pubic arch, and the other on the perineum, thereby endangering the vulvar tissues. In such a case I would urge careful removal of the instrument, and a completion of the cephalic delivery by pressure through the recto-vaginal septum as a supplement to the natural efforts. But when the cephalic mode of application has been followed, and the blades lie on the sides of the head, they need not be removed. They take up no room, and by means of them we can resist too rapid expulsion, if there be a tendency to it, enforce firm flexion of the head, and keep the occiput well up in the pubic arch.

### XVI.—LONG RETENTION OF THE PLACENTA AFTER ABORTION.

In the *American Journal of Obstetrics*, vol. XVI., page 1048, Dr. Samuel L. Jepson reports two cases of long retention of the placenta after abortion. In one instance it remained one hundred and fifteen days, and in the other sixty-six days. In both cases there was a history during retention of occasional hæmorrhages, and general ill health. Laminaria tents were employed for uterine dilatation, and the retained afterbirths removed by instrumental and manual means. Rapid convalescence succeeded the operations.

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TREATMENT OF GRANULAR LIDS.—Dr. Arnoux claims to have met with great success in the treatment of granular lids by the following simple method: The lid is everted and wiped with a dry piece of blotting paper. The granulations are then touched very lightly with a crystal of *sulphate of copper*, and immediately after a smooth cylinder of zinc is passed over them. Then the conjunctiva is carefully dried again, and, as far as possible, the impalpable black powder which remains after the operation is removed. The lid is then replaced, but not allowed to touch the ball of the eye for a minute or two. No subsequent cold applications are necessary, as there is little reaction if the operation is delicately performed.—*Gaz. Medica di Roma.*

# New York Medical Times.

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"*A regular medical education furnishes the only presumptive evidence of professional abilities and acquirements, and* OUGHT *to be the* ONLY ACKNOWLEDGED RIGHT *of an individual to the exercise and honors of his profession.*"—Code of Medical Ethics, Amer. Med. Ass., Art. iv., Sec. 1.

Our practice is *not* "based on an exclusive dogma, to the *rejection* of the accumulated experience of the profession, and of the aids actually furnished by anatomy, physiology, pathology, and organic chemistry."

## CHRISTMAS AND NEW YEAR'S THOUGHTS.

The pleasant greetings and good cheer which brighten the last week of the year leave no place for bitter memories or sad recollections. All there is of beauty, and brightness, and progress which the old year has kindled into life or given new strength, quickens the joy bells which ring out the birth of the New Year and surrounds its pillow with a halo of brightness and of hope. All there is of bitterness and strife, all the heart burnings we bury with the old year, bringing only the memories of good, the kind thoughts and pleasant recollections to diffuse their aroma and their brightness around the new, so that, as the years roll on the good resolves carried into active progress in the development of new truths supported and established by patient research and new facts, the elimination from the great current of thought, of old errors and old prejudices, and the more complete blending of men of all factions and of all creeds into a mutual respect one for the other as we learn more of the harmonies of nature and the fallibilities of human thought and judgment, is attained better work, riper judgment and a higher progress.

Well would it be for us in our public work and domestic life if we could realize the fact that matter and mind are ever in motion; there is, there can be, no halting; but in the ceaseless change evil is eliminated or absorbed, the good strengthened or weakened, and the current of life made to flow on in broader, deeper channels, or spread out until it is lost in the burning sands.

It has been well said that no thought is ever lost, but daguerreotyped upon the immortal tissues of the soul, under certain influences and surroundings, it may shine out in living characters, a reminder of a past life, and its influence on the present and the future. Old families die out, becoming extinct, as the noble purposes and honest efforts which made them strong and great were supplanted, as one generation after another passed away, the vices of society and indolence poisoning lives content to rest upon a family name, and doing nothing to add to its strength and lustre. The man who is satisfied to live upon his father's record, and his father's wealth, instead of using them by well directed effort for the public good and in building up his own reputation, sins with a high hand against the laws of his being, and often entails upon his children a penalty hard to bear.

If each succeeding year does not find us in advance of the preceding year, in mental grasp, in intellectual attainments, in accumulations of facts, in the great work of life, we have receded, for there is no standing still, and we shall find it hard to catch up with the great current of thought which is sweeping on in its resistless way.

The thought which should ever stand foremost is, how can I do my work so as to accomplish the greatest good, and win the greatest success? No matter what individuals may say, public opinion will sooner or later endorse success if it is founded upon right, and the old adage of David Crocket should be written in letters of gold over every young man's home, "Be sure you are right, then go ahead." Every step of our work should be taken, not in obedience to the mandates of antiquity unless supported by facts, not to conciliate this school or avoid giving offence to that, but simply from the principle of right. Never did one of the greatest of American Statesmen utter a grander thought than this, "I had rather be right than President." It came in response to the argument of a politician who knew well the public pulse and urged the adoption of a certain course sure to win present success. "No," said the Statesman; "it is wrong, the nation will see it some day. I had rather be right than be President."

The advice of the TIMES to its readers all over the world is, strive to free your mind from unholy prejudice, elminate the evil, and build up the good in your character, place yourself squarely on the platform of right, and the happy, prosperous New Year we heartily wish you will be surely yours.

## CHARITY ORGANIZATION.

At a large meeting of the Charity Organization Society, a few days since, some very interesting facts were stated by the legal gentlemen who alone occupied the platform—the medical side, the most important of all, being entirely unrepresented.

It will be somewhat startling to hear that in this great city, with its untold wealth, one in every twenty-seven receives charitable help, yet statistics show this to be the case. The experience of other large cities, where charity-giving has been thoroughly systematized and reduced to a science, is that at least twenty per cent. of the applicants for charity are imposters, and of those who are really in need, at least in half the cases friendly advice and being put on the track of earning

their own living will be of infinitely more service than continuous help.

The great fault with the charity-givers is that they give too much from impulse and too little from a desire to help, in the best way, deserving poor. Of all the charitably disposed the physician, notwithstanding his facilities for learning human nature, is the most likely to be deceived. A physician calls on him, broken down in health and wishing money to get out of town, and is helped, until by and by it comes out that he has been traveling among the profession for years, telling the same story and fairly living on gains thus obtained.

The question of dealing with poverty and suffering is one which should not be left to sympathy and impulse, but to a well systematized charitable organization, through which all the facts can be ascertained. In this way not only is present help secured to the deserving, but what is of equal, if not still greater importance, a way pointed out for future independence. Through the visiting physicians of dispensaries facts can be reached of the utmost importance in guiding private and public charity. The old adage of what is every one's business is no one's business is often too true. If in every city and town there should be a charitable organization under the guidance first of the physicians and then a few intelligent ladies and gentlemen, including, if possible, one or two from the legal and clerical professions, every unfortunate person could receive just the aid needed, the causes of their misfortunes ascertained, and, to a certain extent, prevented by careful watching, public sentiment, and sharp legal practice, if necessary. In all this well-directed help there would be no sectarian spirit, and imposition would be next to impossible.

The county alms houses, in which the unfortunate of all classes are gathered, will bear careful watching. The Secretary of the State Charities Aid Association, at its recent annual meeting, said :

"The association has given much thought to the subject of the care of the insane, and in its visitations of county asylums and poor houses, has found very unsatisfactory conditions. Lunatics, who perhaps might be cured or improved with proper care in State hospitals, are found in strong, close cells like ox-stalls, as in Chenango County, or chained to strong iron rings in the wall of the yard, like wild animals, in Genesee, the lack of suitable care takers obliging this recourse to restraint In Broome County, the only night attendant in the male insane wards is the watchman, whose real business is to patrol the poor-house grounds. In this asylum, also, the bathing is done in the coal cellar—six patients in the same water, which is then saved to wash the dirty clothes. The women's wards here, however, show the good effect of cheerful industry on the insane. On the day of the secretary's visit all the women were sewing and knitting, and interested in their work. But, as a general custom, the insane in county poor houses are kept in attics and basements and out-buildings. They are filthy and squalid, they lounge about in idleness in shadeless courtyards, and little effort is made to keep the sexes separate.

"In Chemung County, cells still exist long used for insane quarters, and in one of them, a man lay seventeen years unclothed, except for a ragged quilt, in a dry-goods box, on a bed of straw. Similar cells exist in the Niagara County poor house. In Tioga County the secretary found the insane shoeless, bareheaded, compelled to sit on the floor, and both men and women patients under charge of a male pauper. The removal of such patients to Willard Asylum proves that they can be humanized and made happy.

"The association recommends that poor house insane wards and county asylums should be abolished, and all classes of insane cared for by the State, in cottages of moderate cost, on the vacant lands of the six present State institutions. The association also urges the opening of training schools for nurses in insane hospitals."

The cost of keeping these insane patients in any of the six State institutions where they will be well fed, and well cared for, is from three and a half to five dollars a week. The great need of the community is an organization for systematized charity, where the impostor shall be ruled out, the shiftless and lazy made to work, and only the deserving poor receive substantial aid in the way of money, food, or raiment. The great heart of the people is ever open to the cry of suffering, but it has yet to learn that ill-directed giving is worse than no giving at all.

Now, gentlemen of the medical profession, you have revolved this subject in your minds over and over again ; do not throw aside this article as a twice told tale, but organize, and tell us in a year the result of your labor.

## THE PORT JERVIS EPIDEMIC.

The State Board of Health has made investigation of the outbreak of typhoid fever at Port Jervis, of which report the following is an abstract:

"As the facts now stand, the incidence of fever poison was definite along the lines where Mr. Hensel sold the milk from the Cuddeback farm, and these lines ended where those cans became empty. The casual and very few cases of fever that occurred before the milk-carried virus began, as well as the few such cases since, seem to have no relation to the milk, yet their causes are definite or common, such as produce fever every year in Port Jervis. Reading the mere arithmetic of the cases, we find something like the following, as now summarized by Professor Curtis, of the State Board service : Of about 100 cases (total) in Port Jervis seventy-five used the accused milk beyond doubt. It is very probable that more than this number made at least casual use of it. Of 125 families supplied with the suspected milk, thirty-seven are sick, probably with typhoid fever. The suspected milk constitutes possibly one-tenth of the entire amount supplied to and used by the whole village. Of the 120 quarts sold by the milkmen eighty quarts came from the dairy on which the disease prevailed. The cases are most numerous along the part of the route first supplied by the milkman and where he furnished milk from the suspected dairy. The cases are scattered all about the village, indicating a general cause independent of ordinary local and localized causes. Of the considerable number who drank this milk with impunity some few are reported as protected by various conditions, such as having previously had the disease, advanced age, etc. Their escape, however, is for various reasons not an argument against the hypothesis.

"Thus the logical demonstration, as now shown by your physicians and Professor Curtis, seems complete in favor of the disputed hypothesis that has proved so unpleasant for a good dairy-woman. The lesson is of vital importance, and it will be fortunate if many a cesspool does not become the fever-nest of its neighborhood now subject to invasion by the treacherous virus of a fever that was never known to be personally contagious, though thus capable of propagating an infecting poison which fresh milk, every kind of excremental matter and the cesspool will hold and convey."

It will be observed that the disease prevailed mainly in houses supplied with milk from a particular dairy-farm, on which there had been cases of typhoid. We are glad to see that the report bears out the theory of Dr. MacDonald who first suggested the source of the poison which has proved so disastrous. We shall look anxiously forward for the full text of the report which will, we hope, cover the details of the sanitary condition of the dairy-farm implicated, together with the relationship of the cases of typhoid, which had existed on this farm previous to the outbreak.

In the course of a recent lecture in Baltimore on the subject of food and the markets in their relations to municipal hygiene, Dr. John S. Billings affirmed that fifty-three diphtheria epidemics, seven scarlet fever epidemics and twelve typhoid epidemics in England had been directly traced to the milk supply.

We hope that the profession will keep these statements in mind and, whenever opportunity offers, investigate them according to scientific principles. The outbreak in New Haven just now affords a chance for beginning the work.

## THE DEVELOPMENT OF THE GERM THEORY.

The study of the lowest organic forms in their relation to disease, especially to the acute infectious diseases of man and the lower animals, has reached a point which promises to revolutionize our pathology, if it has not in a large measure already done so. It is just here that biology, in the widest acceptation of the term, has shown its greatest influence upon medicine. We study disease from the stand-point of the naturalist, its habitat and geographical distribution, its etiology, and the phases it assumes under varying atmospheric and telluric conditions. As a natural consequence of this study, biologists have looked to some morphological element in the etiology of disease, and while for a long time, a germ theory was only dreamed of, it has been gaining ground step by step until it has risen above a theory, and the germ origin of certain pathological processes stands as an indisputable fact.

While it is difficult, if not impossible, to ascertain the small beginnings in this work, there is little, if any, accurate knowledge of micro-organisms prior to 1857. In that year Pasteur published his work on lactic acid fermentation, and four years later, in 1861, followed with a second work on butyric fermentation, which started numerous investigators into this new field of research. They led to Dr. Davaine's valuable investigations into charbon, and first prompted Lister to study the influence of germs in his surgical wards in the Glasgow Infirmary, investigations which were the starting-point of a system destined to revolutionize the surgical treatment of wounds.

Tyndall, from the stand-point of the physicist showed by his beautiful experiments the universality of minute organic particles in the atmosphere, capable of growth and reproduction, and a host of German investigators strengthened this discovery by that patient and exhaustive research which characterizes scientific Germany to-day. The theory of spontaneous generation which had many supporters began to lose ground. To-day it has been shown to be untenable and has been absolutely disproved. This was an important advance.

The study of the conditions of life of these innumerable germs led to many valuable discoveries into their development and increase, and while there are many questions still unsettled as to the existence of distinct species, the stability of specific and generic characteristics, the various forms marking different stages in their development, so much has been learned that we may reasonably expect a solution of the problem at some future day.

Another great step was taken, and for this we are again indebted to Pasteur, when these *microbes* were isolated from their original soil and "cultivated" in liquids of known composition, their origin, development, and death studied, and the various conditions favoring or antagonizing their life and activity. And when further these germs, known to be free from extraneous morbific agencies, were introduced into susceptible bodies producing the original disease, the chain of evidence was well-nigh complete.

The acute infectious diseases of the lower animals offered the best field for investigation, and it is here that our knowledge is most accurate and complete. Germs could be studied in their most congenial soil, could be more readily cultivated, and inoculated into bodies most susceptible to their influence. Thus chicken cholera and charbon, otherwise known as anthrax or malignant pustule, have been so thoroughly investigated that their germ origin may be regarded as definitely settled. Pasteur was eminently fitted to carry on these researches; his knowledge and experience as a chemist and physiologist, and the great resources for investigation at his disposal proved invaluable in this work. His researches into the nature of silk worm disease were an admirable preparation for his later work.

In Germany a host of investigators have been at work in a similar field, rivalling Pasteur in ingenuity, patience, and industry, enlarging the field, and improving many points of *technique*. Koch stands out prominently for his researches into anthrax, symptomatic anthrax, the malignant œdema of mice and guinea-pigs, and his recent discovery of the *bacillus tuberculosis*.

England can boast of the valuable labors of Lister, Tyndall, Cheyne and a host of others.

In our country, Salmon, Law, Detmers, and other veterinarians are investigating the relation of the micro-organisms to the acute infectious diseases of the domesticated animals. The report of D. E. Salmon,

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D. V. M., to the Commissioners of Agriculture, on his investigations into fowl cholera, printed in the "Agricultural Report," for 1881 and 1882, shows extensive research. He has isolated and cultivated the specific bacteria of this disease, has shown its specific morbific properties, and has attenuated the virus, producing a safe and efficient vaccine, which gives only a local lesion, yet renders the fowl unsusceptible to the undiluted virus. Similar investigations in swine plague and Southern cattle fever are being carried on, from which we may expect still further light on this great problem.

To-day, the great mass of literature on the subject shows how much work has been done. Ziegler's researches have satisfied him of a specific micrococcus producing erysipelas, and more recently, Dr. Fehleisen has isolated and cultivated these micrococci in gelatine through fourteen generations, producing erysipelas in rabbits and men by inoculation. Klebs has been investigating a bacillus found in connection with syphilis, and Klebs and Tommasi-Crudeli have announced a *bacillus malariæ*, although their experiments are very imperfect and open to criticism. Neisser and Hausen have found a *bacillus leprœ* in all the leprous modules they examined. Klebs, Eberth, and Koch have found bacilli in the lesions of typhoid fever. Obermeyer discovered the *spirillum* of relapsing fever in 1873, and its constant presence in this disease has been since abundantly shown. In certain forms of endocarditis and nephritis, in variola and vaccinia, in acute yellow atrophy of the liver, croupous and catarrhal pneumonia, in diphtheria, scarlatina, and measles, micrococci have been detected, although their exact significance is still doubtful. More recently Koch's *bacillus tuberculosis* has set the whole medical world to investigating the germ origin of this disease. Recent investigations into septicæmia and pyæmia have greatly modified our pathology and revolutionized our treatment.

Aside from the study of germs in their relation to the acute infectious diseases, so-called, their influence on wounds following surgical operations has offered a large field for investigation and has been the most productive of practical results. The benefits to the physician and surgeon accruing from all this research have been great. To the one has been offered efficient *vaccines* in chicken cholera and charbon, and the probability of increasing the number, and also the bettering of our knowledge of prophylaxis and public sanitation; to the other, an improved method of treating wounds. The entire practice of surgery has been revolutionized by the antiseptic treatment, and while many do not carry out *in toto* Lister's system, the universal recognition of perfect cleanliness in surgery as a *sine quâ non* marks an epoch in the history of medicine. Perfect cleanliness is, in fact, a form of antisepsis, in that it guards against extraneous morbific influences. "*Si nullus erit pulvis, tamen excute nullum,*" might well apply; "if dust be none, yet brush that none away."

The study of germicides has given us the efficiency of various substances in their germicidal properties, and the modifications which Lister's original system has undergone have been the result of the great number of germicides offered to the surgeon from which to choose. While *carbolic acid* still holds the first place, *mercuric bichloride* and *iodoform* are coming prominently forward. The latter has been almost entirely substituted in Vienna.

A number of brilliant operators have discarded antiseptics, and rely entirely on cleanliness, and their results have been, in many cases, equal to, if they have not excelled, their antiseptic confrères. Their work but adds another proof.

The two cholera commissions sent out by France and Germany to investigate the recent outbreak of the disease in Egypt, show the influence exerted by the labors of Pasteur and Koch. Pasteur has returned to France without any definite results, while Koch, with no better results, has gone to India to study a new outbreak of cholera.

The Commissioners reached Egypt at the close of the epidemic, when the disease had about spent itself, and when the material for investigation was limited. The French Commission detected certain micro-organisms in the blood and intestinal walls, but failed to stain them satisfactorily. The "cultivations" were incomplete and their inoculations failed utterly for want of susceptible material. Koch has written an official statement to the German Government, in which he asserts that a definite form of bacteria, a bacillus, was found in the intestinal walls, principally in the follicles of Lieberkühn and intestinal villi. These bacilli had even penetrated the mucosa, and were found in abundance in the muscular coat, evidently producing great irritation of the parts. Though he succeeded in isolating and cultivating these bacilli through many generations, his inoculations proved unsuccessful from lack of susceptible material. Guinea-pigs, dogs, cats, rats, mice, rabbits, all gave negative results. Until the cultivated bacilli can be successfully inoculated, producing cholera, the specific *microbe* of this great scourge must remain undiscovered. It is to be hoped that Koch's Indian experience may give better results.

In the study of the pathogenetic micro-organisms enough has been done to show the great influence which this biological research will have on the pathology of the future. We are already deep in the fairy tales of science, more wonderful than Aladdin's Lamp, or Sinbad the Sailor, and in a future not far distant we shall have brought within the reach of our senses forces which have been heretofore even beyond our conceptions.

## EXPERT MEDICAL TESTIMONY.

The subject of expert medical testimony is again brought to our attention, through the late trial of the Dwight case, in which a verdict for a large amount has been rendered against some life insurance companies. This case, an account of which we published at the time of its occurrence, was one in which a man insured his life in a large amount, and died soon after. The companies claimed that the deceased committed suicide,

with the deliberate purpose of fraud upon them. The medical testimony, as usual, was sufficiently conflicting to confound any jury, and it appears to have been thrown out by this body in their deliberations.

The medical witnesses for the defence swore positively that the death of Colonel Dwight was caused by strangulation, the immediate cause being asphyxia. They described the state of the internal organs at the *post-mortem* as being wholly incompatible with the hypothesis of death from disease. They declared that the lungs were full of air, that the brain was engorged with blood, that there was no morbid process in any of the internal organs. They further alleged that the body bore a deep crease in the neck, such as could only have been caused by constriction, and which a rope would have produced. The medical witnesses for the plaintiff, on the other hand, as positively expressed their belief that Colonel Dwight died from natural causes. They declared that the crease in the neck was caused by bending the head back, and that it was evidently not the effect of constriction. They found the lungs in a normal condition, and they fully accounted for the death by disease. It was charged on the part of the defence that Dwight had spitting of blood when he applied for a policy, and that he had concealed this affection. Upon this point a mass of medical testimony was adduced, and if some of it is to be believed, it would seem that spitting blood, should be regarded rather as evidence of peculiarly robust health, than as a sign of pulmonary disease.

There were many points brought out which could only be settled by unprejudiced medical experts, and as all this testimony was distinctly arrayed upon one side or the other, and hence conflicting, neither the case under consideration, nor the cause of justice, was promoted thereby.

The question as to the value of medical testimony arises in every case in which the expert is brought out. The jury in the Conroy murder case when they brought in a verdict of murder in the first degree, showed that the plea of insanity was not made out to their satisfaction.

There is a way by which this whole subject may be settled in the interest of justice, as well as to maintain the integrity of science, and promote its development.

Some of the medico-legal societies would be doing much better service, if they would consider this subject in place of their wrangling, and report a bill for legislative action, which would meet this emergency.

A bill which would provide a medical court, properly constituted, in each county, to act in conjunction with courts of record, to which could be referred all matters medical, might be made of the greatest service to the judicial bench. Another plan would be to empower judges to call to their aid such independent medical experts as they might require, to settle disputed points on which the testimony is conflicting.

Doubtless, all will admit that something of this kind is needed to save the medical profession from opprobrium and disgrace, and to enable the legal profession to benefit by the advice and knowledge of those who ought to be competent and willing to elucidate those subjects, which, of course, should be quite clear to them through familiarity with all their bearings.

We shall look anxiously for the introduction to the present legislature of a bill which shall provide, in the simplest possible way, against the perpetuation of the caricature upon medical experts which is being practiced, and solve the whole question of how to obtain reliable and truthful expert medical testimony.

## NEW HOSPITAL BUILDING.

The friends of the new school in Pittsburgh, Pa., have recently erected a magnificent hospital building, which has just been opened to the public, for a description of the ceremonies of which we are indebted to the *Record*, a sprightly sixteen page daily, which was published during the continuance of the festivities, extending over ten days. The hospital has a capacity of two hundred beds, with large dispensary facilities.

The hospital building extends from Second to First avenues, with a front on each avenue, the main entrance being on Second avenue. It has a depth of 160 feet, is four stories high, each story being 16 feet, with a 9-foot basement, is built of brick laid in black mortar, is modern in style, and is most thoroughly and substantially constructed, all the openings being arched throughout.

The building has two wings and a central or intermediate part. The Second avenue wing has a frontage of 88 feet, and a depth of 41 feet. The wing contains the general offices of the hospital, reception rooms, private wards, and autopsy room. In the central part of this wing, on the second, third, and fourth floors, are convalescent and library rooms for the use of private patients. The main entrance is through this wing.

The First avenue wing is 87 by 31 feet, and contains the dispensary and eight general medical and surgical wards. The dispensary occupies the basement, and the wards the four floors, each floor being divided into two wards. The wards for the male and female patients have separate entrances, stairs, etc., and have no direct communication with each other, but each has communication with the central part of the building by means of halls, stairways, etc.

The central building which connects the two wings, contains the chapel or assembly room, dining rooms, matron's room, children's wards, lying-in department, convalescent rooms for the general patients, an admirably arranged and lighted operating room, laundries and kitchen fitted with all modern appliances.

A portion of the central building is divided into sub stories in connection with the stairways. In these an that part of the main story above them are located the bath and toilet rooms, rooms for the nurses, etc. These are connected with the central building, and the First and Second avenue wings by cross halls and passages.

The operating room, laundry, and kitchen are located on the fourth floor, an arrangement adopted to prevent any odors from permeating the wards. This central

building contains three dumb-waiters and one large passenger elevator. Two of these dumb-waiters are for the use of the laundry and kitchen, and the other for freight.

The building is finished throughout with hard wood. In the heating, both the direct and indirect systems have been adopted, and the entire structure is thoroughly ventilated.

The boilers, engine room, etc., are located in the subcellar outside the building. All heating rooms are fireproof, or nearly so, no wood being used in their construction, except the doors, frames, and sashes.

The cost of the land and buildings ready for occupancy will be about $200,000. The Medical Board for the present is constituted as follows:

Consulting Physician, J. C. Burgher, M.D.; Surgical Staff, L. H. Willard, M.D., J. H. McClelland, M.D., C. P. Seip, M.D., W. R. Childs, M.D.; Medical Staff, J. S. Rankin, M.D., C. F. Bingaman, M.D., W. J. Martin, M.D., R. E. Caruthers, M.D.; Obstetrical Staff, H. Hoffman, M.D., W. F. Edmundson, M.D., J. B. McClelland, M.D.; Oculist and Aurist, W. H. Winslow, M.D.

## EVIDENCES OF PROGRESS.

As an evidence that ethical prejudices are giving way, we are pleased to learn that almost immediately after the adoption of the new code by the Medical Society of the State of New York, a free dispensary was organized and legally incorporated for the treatment of the poor of East Orange, N. J., and probably the only one extant which embraces upon its medical staff, physicians of both schools. The task of organizing such an institution was not an easy one, as the old school practitioners who showed a willingness to serve, were threatened with ostracism by their colleagues. But as the institution received the advocacy of many of the most influential citizens of the place, the obstructionists were obliged to desist, and all have since worked together in harmony. The dispensary was established by Alfred Walton, M.D., (Harvard) a new school practitioner. The medical staff is composed of some of the most prominent physicians of both schools. The dispensary is well supported, and has a large field to draw from, as the Oranges have a population of over 30,000.

## DR. RYDER'S CASE.

Dr. Emma Brainerd Ryder has detailed to us the history of a surgical case performed by her upon a demented boy, at the Woman's Hospital, in 54th street, and the reason which led to the operation. From letters shown us from the father we find that the operation was strongly recommended by Dr. Bancroft, of the New Hampshire State Asylum, and by many leading physicians of Boston, and was performed by Dr. Ryder at the urgent solicitation of the parents and mutual friends, without compensation, and after every other measure of relief had failed. The officers of the hospital had no official connection with the case, the patient being simply a boarder and entirely under Dr. Ryder's care. As Dr. Ryder has been seriously censured by some not acquainted with the facts, we give place to the above statement, which, we think, places the whole matter in a correct light.

## THE EXAMINATION OF GERMS.

In his address to the Aertzetag at Berlin, Dr. Koch describes (London *Med. Record*) the methods he employs at present in the bacterioscopic examination of earth, air, and water. For the examination of air he takes a freshly boiled potato, slices it, and after exposing a slice for a short time to the air in question, allows it to stand some days in a warm room under a bell-glass, covered with wet blotting paper; the glass, like all other apparatus, having previously been sterilized by heat. After a few days, the potato will be seen to be covered with points of various colors, each point representing the progeny of a single germ or organism. Numerous species may be recognized even by the naked eye, but each patch, of course, consists of but one. Another method consists in the employment of a thin size or solution of *gelatin*, five per cent. or ten per cent., according to the temp. of the place or season. This may be used alone, or as the means of solidifying any desired fluid. A favorite cultivation fluid of Koch's, especially suited for bacteria, consists of veal broth or other infusion of meat with five per cent. of *gelatin*, one per cent. of *dry pepton*, five per cent. of table salt, and *carbonic soda* to exact neutralization. These media are sterilized by boiling.

For examination of air, a small glass cup, containing some of the *gelatin* previously sterilized, is let down by a strip of brass foil to the bottom of a glass cylinder closed by a large plug of wadding. The whole apparatus and contained air are then sterilized by long exposure to a temp. of 100° C. When the size has set, the vessel is taken to the place to be examined, and the plug removed for 2, 12, or 24 hours, so as to allow the germs to settle down on the surface of the size; the plug is replaced, and two or three days are allowed for their development into colonies, as described in the case of the potato. The size, or thin *gelatin*, has this advantage over the potato, that, being transparent, it can be examined by transmitted as well as by reflected light.

For quantitative examinations, *i.e.*, to ascertain how many germs are present in a given volume of air, Dr. Koch employs a special apparatus designed by Dr. Hesse, in which the *gelatin* is spread over the floor of a horizontal tube as a layer of uniform width; and, by means of an ingeniously contrived method of aspiration, a known volume, from two to twenty litres of air, is drawn through the tube so slowly that the germs, sinking to the bottom in virtue of their gravity, are all deposited in transit on the *gelatin* in the first half of the tube.

For the examination of water, a quantity to be examined, varying according to the purity as gathered from an ordinary microscopic examination, from several drops down to one of a drop—*i.e.*, a drop of a corresponding dilution—is intimately mixed with the *gelatin*, and spread out as a thin film on a sterilized glass slide, covered with a bell, and examined with a lens of about 30 diameters after the lapse of thirty to sixty hours. The colonies appear as vacuoles in the *gelatin*; and to count them a thin glass cover, ruled in square centimètres, is laid on the slide; the number in each of several squares is taken, and from the mean of these the number first in a drop and then in a cubic centimètre is calculated. Good waters will yield 50 to 100 colonies to the centimètre, unfiltered river waters as many thousands, while in sewage they are to be reckoned by millions.

In examining earth, he merely sprinkles over the surface of the congulated *gelatin*, fine particles of the soil.

In the moist atmosphere of the bell, the germs adhering to the particles of earth soon develop into colonies.

An excellent method of detecting the tubercle bacillus has been described by Ehrlich as follows :

A thin layer of sputum is spread upon a cover-glass, and dried by carefully drawing through a flame.

The coloring process is accomplished by means of a concentrated solution of gentian violet, or fuchsin, or aniline water. The cover-glass is then introduced and allowed to remain in the solution for twenty-four hours or if at a temperature of 122° F. an hour will answer. The cover-glass is then immersed in a twenty per cent. solution of *hydrochloric acid*, where it should remain until the specimen assume a yellowish color. It is then washed in water, allowed to dry, a drop of Canada balsam added, and then it is ready for examination. The bacilli appear as intensely stained rods, while the other constituents are decolorized.

Dr. Domingos Freire, noted for his researches into yellow fever, has begun, according to the New York *Herald*, the practice of vaccinating persons with a culture of his yellow fever microbe attenuated by six transplantations of gelatin. Five out of his first batch suffered slight symptoms of yellow fever, and the doctor expressed his conviction that they will not be attacked again, or, if they be, will escape with a very slight touch.

Dr. Louis D. Brasse, in a very interesting paper, read before the Medical Society of Mississippi Valley, from a large number of very careful experiments, conducted by himself and others, reaches the following conclusions :

*First.*—That tuberculosis may follow the inhalation of air carrying particles of sputa from phthisical patients.

*Second.*—The breath and saliva of consumptive persons, being thus contaminated, are liable to originate either through kissing or by direct inhalation through close contact, the same disease in a healthy person ; the greater the concentration of the breath inhaled the greater the danger.

*Third.*—Since the same sputa in animals killed under ten days produced no disease, and since the healthy brain of other animals produced no disease in cats, even when under observation for a longer period than twenty days, while true tuberculosis always followed the inhalation of tuberculous sputa in animals between eighteen and thirty days after the spraying, I feel warranted in inferring that in the last instance there was something specific in the inhaled spray, requiring certain developments before originating the infectious disease, *tuberculosis*. My opinion regarding the origin of tuberculosis, formed from this research, and a no inconsiderable clinical experience with the disease, is, that, like diphtheria, it is ordinarily determined by certain peculiarities and susceptibilities in individuals, together with the presence of a specific principle. When a person who has the peculiarity of weak lungs, or, in other words, one in whom bronchial and catarrhal troubles are easily excited, has superadded the infection of tuberculosis, let it be in a minimum amount, we have arising true consumption running through its various stages. Every healthy person can thus be infected when the specific matter is inhaled in large quantities, just as the poison by other infectious diseases will certainly produce these same diseases, when inoculated in concentrated quantities, in persons who would otherwise escape. The reason why we have acute disseminated miliary tuberculosis in one case and a catarrhal phthisis in another will depend on the susceptibility of the individual to catarrhal cell proliferation, and whether the specific principle was superadded to an already existing catarrh, in which case the specific principle would reproduce itself easiest at the seat of tissue necrobiosis. If, on the contrary, there existed a proclivity against catarrhal processes, and the person was infected with a concentrated dose, so to speak, of the specific principle of tubercle, there might arise a disseminated miliary tuberculosis.

Dr. R. R. Gregg recently read a paper before the Buffalo Microscopical Society entitled "The Bacterian or Germ Theory of Disease Overturned," in which he said: "I have controverted the theory of the bacterists for years, and contended that all their so-called bacteria of disease were nothing more or less than so many different forms of fibrine."

The committee of the society to whom the paper was referred, reports as follows : "It will be seen that the doctor disregards all methods of identification save one, namely : appearances in a dry film of albuminous material, seen under circumstances about as conclusive as that of taking the topography of a country from a balloon through a fog. * * * * * The specimens prepared from rotting fibrine, were made up of bacteria, as is plainly revealed by careful staining, and microchemical tests. The committee have separate and collectively made experiments to test the identity of fibrinous forms with bacteria, and it may be positively stated that the results are in every case negative. In no single instance was fibrine found to imitate bacteria in its behavior toward the various re-agents and chemical tests that are used in the study of bacterian forms. * * * * It is unnecessary to follow this subject further. It must be apparent to any one, having one grain of manipulative skill, and the slightest acquaintance with correct methods of microscopical investigation, that no reliance can be placed upon such observations, and that all conclusions based upon them may be dismissed without serious consideration."

## *OBITUARY.*

ONE of the most widely known, careful and intelligent students of insanity, Dr. Thomas Story Kirkbride, superintendent of the Penn Hospital for the insane, died at his home in Philadelphia, December 17, aged 74 years. Dr. Kirkbride was the author of several works on the construction and management of hospitals for the insane, and contributed from time to time very valuable monographs and reviews to the *American Journal of Insanity* and other periodicals. He was for eight years president of the American Association of Medical Superintendents of the Insane, of which he was one of the founders.

## *BIBLIOGRAPHICAL.*

A DIGEST OF MATERIA MEDICA AND PHARMACY; Forming a Complete Pharmacopœia for the Use of Physicians, Druggists, and Students. By Albert Merrell, M.D., Philadelphia. P. Blakiston, Son & Co., 1883.

The object of this work, as stated by the author, is "to present a condensed statement of such essential facts pertaining to each drug therein described, as will form the groundwork for their rational employment in the treatment of disease. Truth is the property of no one school of medical philosophy, and as each possesses special merit, it is the duty, as it should be the pleasure, of progressive and conscientious physicians to dispassionately examine all remedies and curative methods, and exercise, in perfect freedom, their right to adopt such as commend themselves, as useful for the cure, palliation, or prevention of disease."

The author has prepared his work conscientiously, and with rare ability and skill. Single remedies alone are discussed, and in these, the author distinguishes between the poisonous and curative action of the drug, and indicates with great clearness, the abnormal condition in a tissue or organ it influences, which constitutes the physical expression of the disease. The work, carved

out from beginning to end in a thoroughly honest and philosophical spirit, is, in every sense of the word, an admirable epitome of Materia Medica and Pharmacy.

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A Treatise on Syphilis in New-Born Children and Infants at the Breast. By P. Diday, translated by G. Whitley, M.D., with Notes and an Appendix, by F. R. Sturgis, M.D. New York: Wm. Wood & Co. 1883.

The work of M. Diday goes fully into the details of infantile syphilis, giving first its etiology and then discussing, in their various phases, congenital and acquired syphilis, going into the detailed and diagnostic indication of each lesion, the progress of the disease, its prognosis, its medico-legal bearings and the treatment. The diagnostic points are clearly brought out and illustrated by clinical cases, and a carefully considered treatment, both preventative and curative, given to meet the various conditions of the patients and their surroundings. In an appendix Dr. Sturgis discusses, at some length, two important points. First the question of the liability of children born with the taint of hereditary syphilis, the mortality which occurs among them, and the causes which produced death, and secondly, the accidents known as late congenital syphilis. The work forms the October issue of Wood's Library, and is one of the best of the series.

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Students' Manual of Diseases of the Nose and Throat. A Digest, descriptive of the More Commonly Seen Diseases of the upper Air-Tract, with the Methods of Their Treatment. By J. M. W. Kitchen, M. D., Assistant Surgeon to the Metropolitan Throat Hospital, Late Instructor in Diseases of the Nose and Throat at the N. Y. Post Graduate Medical School, etc. New York: G. P. Putnam's Sons, 1883.

The author has attempted to condense into one hundred and twenty-seven duodecimo pages the main points of throat and nose affections, for the use of students, and for the ready reference of the general practitioner, for which service it is very convenient. The text is most concisely set forth in intelligent language, and the principal instruments employed in the specialty are figured.

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Clinical Chemistry. An account of the Analysis of Blood, Urine, Morbid Products, etc., with an explanation of some of the chemical changes that occur in the body in disease. By Charles Henry Raefs, M.A., M.D., Illustrated with 16 engravings, Henry C. Lea's Son & Co., Philadelphia, Pa.

The title of this little work fully explains its purpose, which is to furnish students and practitioners with a concise account of the best methods of examining, chemically, abnormal blood, urine, morbid products, etc., at the bed-side or in the laboratory. A vast amount of information is condensed into a small space and hints and suggestions given which can be carried out in larger works.

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Report of Commissioner of Education.

The Commissioner of Education presents his report for 1882 in a large volume, a section of which is devoted to medical education. By the tables given, we learn that in 1881 there were 96 medical colleges, of all kinds, with 12 417 students, and 4,019 graduates. In 1882-3 the medical colleges numbered 119; the matriculates 11,854, and the graduates 3,979, showing a slight increase in the number of medical colleges, but a slight decrease in the students and graduates. There are sixteen colleges requiring attendance upon their courses of lectures, and 56 colleges who recommend and provide for without requiring it Seventy-one colleges exact some evidence of a preliminary education before matriculation. The tables show an increased value of the property belonging to medical colleges, chiefly in the way of philosophical apparatus and facilities for clinical teaching.

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Epitome of Skin Diseases. By the late Tilbury Fox, M.D., F.R.C.P., and by T. Colcott Fox, B.A., M B. Third American edition, revised with additions. Philadelphia: Henry C. Lea's Son & Co. 1883.

The excellent epitome of skin diseases, by Dr. Fox, is too well known in this country to need special comment. The present edition has been carefully revised and enriched by valuable additions, bringing the book fully up to the present time.

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Homœopathic Principles and Practice of Medicine. By W. H. Dickinson, M.D., Professor of Theory and Practice of Medicine in the Homœopathic Medical Department of the State University of Iowa, and Vice President of the State Board of Health, Des Moines. Mills & Company, 1883. Pp. 730.

This book is the outgrowth of the author's lectures, delivered during the last six years, and is intended chiefly for the use of students and the recent graduate. The first chapter is devoted to the history of medicine, and briefly sketches, in an interesting manner, the progress and manifold changes of theory and practice. The pathology, diagnosis, prognosis, prophylaxis, morbid conditions, etc., etc,, are well classified for the student to obtain an introduction to the study of disease. The various subjects seem to be intelligently treated, of course concisely, as time and space demand in a text book. The work is a credit to the author, and the publishers have done their part satisfactorily.

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Directory to the Charitable and Beneficent Societies and Institutions of the City of New York. G. P. Putnam's Sons, Publishers, 1883.

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*Dio Lewis' Monthly*, one of the recent candidates for popular favor, bids fair to accomplish its aim. The December number is filled with a great variety of short articles, bright, sparkling, sometimes witty, always readable and healthy. There can be no mistake in admitting this magazine to the family circle, and it will teach its readers the way to a better life, by the means of a fuller understanding of its natural laws.

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The *North American Review*, for January, presents a table of contents possessing in the highest degree the character of contemporary human interest. First, the opposite sides of the question of "Ecclesiastical Control in Utah." In an article entitled "Theological Re-adjustments" the Rev. Dr. J. H. Rylance insists upon the necessity of eliminating from the formularies of belief and from the current teachings of the churches, whether in the pulpit or in the Sunday School, all doctrines and all statements of supposed facts which have been discredited by the advance of exegetical scholarship, and by the progress of natural science. No one who read in the December *Review* the first half of "The Day of Judgment," Gail Hamilton's incisive review of the domestic life of Thomas Carlyle, will forego the pleasure of perusing the latter half in the current number.

XUM

The *Century Magazine*, for January, opens with an excellent portrait of General W. T. Sherman, and the number throughout is the most interesting of any we have yet perused, the illustrations also being of the highest character. The "Topics of the Time" keeps abreast the most advanced thought of the period.

## *SOCIETY REPORTS.*

### THE MEDICAL SOCIETY OF NORTHERN NEW YORK.

PART I.

The Medical Society of Northern New York held its thirty-second annual meeting in the City Hall, at Albany, Wednesday, October 17th, 1883.

The President, Dr. P. W. Mull, opened the meeting at half-past ten o'clock by a few timely and well chosen statements. Having read the report of the Secretary, about to be presented, he fully endorsed its sentiments, and hoped it might be considered a substitute for any remarks which he might otherwise feel disposed to offer.

REPORT OF THE SECRETARY.

The large item, amounting to nearly twenty dollars for postage, found in the report of the Treasurer, indicates measurably the amount and extent of the correspondence carried on by the Secretary during the past year. It is not necessary to describe the kind or amount of work performed with a view of promoting the growth of this Society, and the enlargement of its sphere of usefulness, by awakening an *esprit de corps* among its members, and by inciting them to greater activity in the use of all the various means to be applied for the accomplishment of these desirable results. Every member has received one or more written communications on these points,

In this correspondence the importance of putting forth personal effort, on the part of the individual members themselves, with a view of securing large additions to the membership, has been plainly set forth.

It would seem that the members scarcely realize that the rapidity of the growth of the Society depends wholly upon themselves. Each member has one or more professional associates, old school or new, with whom he is on more intimate terms of friendship, than he is with a majority of the medical men in his immediate neighborhood. These personal friends he can, very probably, induce to attend the meetings of the Society, and perhaps also, join its fellowship. No other means will be likely to prove as effective as this. If earnest effort is put forth for the accomplishment of this one object, our membership can be increased three or four fold within two years.

The average attendance at ordinary medical meetings seldom exceeds one-fourth or one-fifth its entire membership. Special meetings may now and then bring together a larger proportion; the usual average attendance, however, scarcely ever exceeds twenty-five or thirty per cent. of the entire membership. If, therefore, the list of members of this Society can be enlarged to two or three hundred, we shall be reasonably sure of an average attendance of upwards of fifty members at each of the annual and semi-annual meetings.

This number is amply sufficient to insure profitable and spirited discussions, without which, however meritorious, original or exhaustive the papers that are presented and read may have been, the meeting will be pronounced prosy, dull, or, it may be, a complete failure.

Let the first object of every member therefore be, to increase the membership. There are hundreds of young practitioners, residing within the jurisdiction of this Society, who would be benefited by associating with us at our semi-annual gatherings. They would soon become wiser and better practitioners. Why, then, are they not with us and of us? What hinderances are in the way? Can I do anything to promote the advent of these persons into our fellowship? are questions which each one will do well to ask and answer for himself.

Let each one resolve that he will not allow another period of six months to pass unimproved. Let each endeavor to persuade at least one physician who is not now a member, to come to the meetings, in the confident expectation that, sooner or later, he will become actively identified with the plans, the objects and the work of the society.

And this elicits the statement that the objects of the society are mainly two fold, viz., entering upon new and original work, in the proving of drugs and the development of any and all the special departments of practical medicine; also the presentation of reports of cases cured by any method of treatment or appliance extant.

Let the society become an "open forum in which truth shall be so distinctly proclaimed and so persuasively enforced, that error shall have no chance." Let the broad fields of medical science be carefully and thoroughly investigated; and let the meetings of the society become the centres of friendly communication of views, and an interchange of the results of ripe experiences gained by long and successful contests with disease. Let a spirit of honest inquiry pervade all our researches; and let these half-yearly gatherings yield us the rich and accumulating fruitage of triumphs over the multiform ills to which flesh is heir.

Let one member give us glimpses of the progress of pathology, and another add to our store of therapeutic knowledge, and still another show us how both can be made harmoniously available for the alleviation or removal of prevailing diseases. Let no sectarian views or belief, no unfriendly criticism, no personalities ever mar our discussions or interfere with the accomplishment of the benign purposes for which the society was organized and is maintained.

REPORT OF THE TREASURER.

The treasurer of the Medical Society of Northern New York presents the following report of receipts and expenditures during the fiscal year ending October 17, 1883:

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| Received from new members | $12.00 | |
| Received back dues | 7.50 | |
| Received annual dues | 21.00 | |
| | | $40.50 |
| Paid express charges | $1.15 | |
| Paid for postage | 19.30 | |
| Paid for printing and paper | 45.20 | |
| | | $65.65 |
| Total amount received | $40.50 | |
| Total amount expended | 65 65 | |
| Total amount of indebtedness | 25.15 | |

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|---|---|
| Expenditures during the year ending Aug. 10, 1880 | $12.00 |
| Expenditures during the year ending Aug. 9, 1881 | $31.00 |
| Expenditures during the year ending Oct. 14, 1882 | $78.00 |
| Expenditures during the year ending Oct. 17, 1883 | $65.00 |

H. M. PAINE, *Treasurer.*

On motion the report was approved.

### THERAPEUTICS.

REPORT ON DRUG PROVING.

(H. M. Paine, M.D., *Committee*, Albany, N. Y.)

Special effort has been made, since the last meeting of the society, with a view of reviving an interest in the proving of drugs. It goes without saying, that the physiological effects of medicinal plants and substances can be fully ascertained only by concerted effort put forth by many observers.

The very first step in the process of prescribing homœopathically, is the determining of the physiological and pathological characteristics of remedies. Without these the application of the law of similars becomes measurably inoperative. The provings of a drug voices, as it were, its capabilities for curing diseases. Drug provings, however, obtained by experiments upon the sick are not reliable. The similarity of the drug disease to the natural one is the objective point to be attained; but the points of similarity cannot be accurately determined by clinical tests alone. Clinical experience only, being untrustworthy, it follows that trials by means of which the peculiar characteristics of drugs are to be determined must be made by persons, as nearly as may be, in a normal condition. Until these normal characteristics, so to speak, of drugs are accurately determined, and the results carefully and systematically tabulated, medical substances can be prescribed only empirically.

It is comparatively an easy matter to prescribe for diseases by name, and to recommend the use of certain remedies, because we may have heard that these substances have been previously found applicable in similar cases. Routine treatment, without study and close observation, is slothful, betokens indolence, and has little significance.

To make trials of drugs, however; to carry these tests to the verge of toxication, where actual and sometimes intense physical suffering ensues, in order the better to catch the full scope of their healing properties, involves a degree of self-sacrifice and disinterestedness which, unfortunately, is not often witnessed. I will say, however, that I believe these good qualities of mind and heart are quite as frequently met with in Northern New York as elsewhere.

Although the efforts which have been put forth since the semi-annual meeting, to secure provings of Boletus, (*Agaricus albus*) the drug selected at that time, have not been flatteringly successful, the results are in no way discouraging. A beginning has been made; attention to the importance of the work has been aroused, and a foundation has been laid, it is to be hoped, for effective work in future.

About the middle of last May the following circular was prepared, and five hundred copies were printed and distributed to physicians residing within the jurisdiction of the society:

"The Society at its annual meeting held October 17, 1882, resolved to enter more earnestly upon the work of *drug proving*. While a mere recital of our common experiences in wrestling with disease in its varied forms is of undoubted service, the work of drug proving is superior to it, in that, by such provings, we obtain a knowledge of the only reliable weapons with which to successfully engage in the daily and even hourly contests in which every member of the profession is a constant participant. The proving of drugs, therefore, should be looked upon in the light of a privilege within reach of every physician; one in which he can engage *personally* or by *proxy*; one which carries with it, to a certain extent, its own reward, for, by the special training thus acquired, he will gain a more intimate knowledge of the means at hand for treating diseases.

"It is plainly desirable that the Society, particularly the younger portion of its membership, should engage personly in original investigation in some branches of medical research. One of these, and perhaps the most important of all others, is the *proving of drugs*, than which none is more appropriate or gives greater promise of prompt and practical returns.

"Those who assist in drug proving not only contribute to the common fund of therapeutic data, but are indirectly benefited themselves, by observing, analyzing and studying the physiological action of medicines, thereby acquiring more intimate knowledge of their distinguishing characteristics than can be obtained by years of practice without such personal experience.

"It is to be hoped that this invitation extended by the Society, will be accepted and responded to with alacrity and zeal. Nearly every physician has the time and opportunity to prove a drug upon himself, or superintend trials made by others. Nearly everyone has friends, students or members of his family, who can be easily induced to render him the needed assistance. Nearly every one can, therefore, make a thorough physiological proving *personally* or by *proxy*, at least once a year.

'The report of the proceedings of the meeting held October 17, 1882, contains full and explicit instructions regarding the mode of procedure and the rules to be observed, and the report of the meeting held April 11, 1883, furnishes even more simple and practical suggestions."

Soon after the distribution of copies of the foregoing circular, five members of the Society expressed a willingness to make provings of the drug.

The only report yet received is presented by Mrs. Dr. Howland, of Poughkeepsie. The trials were made by her son, Mr. Harry C. Howland, a young man, about eighteen years of age. He states:

"I began taking the tincture in ten drop doses, repeated at intervals of an hour. Continued the use of the drug one entire day, without any noticeable effect.

"At the next proving the doses were increased to twenty drops, and were repeated at hourly intervals.

"At the third hour, shortly after taking the drug, experienced a peculiar contracted feeling in the head, as if a ring had been fastened around it, and was being tightened.

"Pulse diminished in frequency; a symptom which was observed for some time after each dose.

"Continued this proving two days."

Mrs. Howland states, "that she gave a supply of the tincture to three young women, each of whom made several trials, but could not be persuaded to continue, because, after every one, they immediately began to suffer from headache."

The few symptoms obtained from these provings are insufficient to enable me to carry out the plan at first proposed, that of tabulating and contrasting, side by side, the natural and artificial diseases. There are no reflex symptoms or evidences of disturbance of organs distant from the central point of attack, the presence of which seem almost necessary in order to fill up usual characteristics into harmonious relationship with some plainly recognized condition of disease.

The only pathological condition indicated would appear to be that of venous congestion, together with diminished action of the heart. The utility of *boletus* in the treatment of *headache with a slow pulse*, is indorsed by these fragmentary provings.

In large doses it produces catharsis; in smaller doses it acts as an astringent. It also checks sweating, and profuse bronchial expectoration, hence, has been of service in controlling some of the troublesome conditions attendant upon pulmonary consumption.*

Let us hope that the number of provings, during the next six months, may be largely increased.

### COMMON SENSE IN THERAPEUTICS.

(By George E. Gorham, M.D., Albany, N. Y.)

In studying the law of reproduction in the animal or vegetable kingdom, we find that two factors are necessary to produce, from one, another of its kind.

For the first factor, in the plant, we have the seed or germ; in the animal, the egg or ovum.

For the second factor, in the case of the seed, a genial soil for its development, involving heat, light, moisture, and the salts extracted from the earth. In the

* *National Dispensatory*, 1879, p. 118.

animal, especially mammals, the protection, warmth, and nourishment furnished by the body of the parent mother. With these two factors a plant can be grown or an animal reared. If we take away either one, the other is powerless to reproduce its kind.

What is true of plants and animals is also of many diseases. We have the seed, or in other words the disease-producing germ, which we call the exciting cause, for one factor; and a genial soil for its development, which we designate the predisposing cause, for the second factor.

The seeds of both plants and diseases have regular periods of incubation, after which they develop, grow into maturity, then decay and die. So also, the kind of disease, like the plant, depends wholly upon the kind of seed used, the development depending much upon the soil in which it grows

Much may be said showing the analogy between the growth of vegetable seed and the seeds of disease; how each produces its own kind, how each has its limited time of incubation, and how each is dependent upon certain laws and conditions for its growth.

We have stated that two factors are necessary for the growth of animals and vegetables, and also for the development of disease; and that if one factor is wanting, the other becomes inert. Hence it must follow that if, in treating disease, we destroy one factor, the disease does not develop.

Viewed in this light two distinct methods of treatment can be recognized as successful and scientific, namely: that which kills the seed or germ, and that which removes the predisposing cause, or the favorable condition for the development of the seed or germ. I believe diseases are daily treated, successfully too, by each method.

It is proven beyond all doubt, that vaccination removes the predisposing cause, the favorable condition for the development of small-pox in the human system. It is the rule that patients have scarlatina, measles, and many other infectious diseases but once, for the reason that that condition of the system which is favorable to the growth of the disease germ has been eradicated. On the other hand, no one can doubt that, if the disease germ of small-pox or scarlatina is not applied to the patient, he will never have the disease. To prove my assertion that diseases are successfully treated by each method, let me state a few facts bearing on this point.

Scabies, for instance, being a parasitic disease, is quickly and permanently cured, by the germicide *sulphur*. Apply the *sulphur*, kill the germ, and the disease, once so troublesome, is at an end. Intermittent fever, though we cannot see the germ, is no doubt caused by a vegetable parasite, and *quinine*, a powerful germicide, is its destroyer. *Salicylic acid* in rheumatism, *mercury* in syphilis, *salicylate of soda* in typhoid, all work upon the same plan.

It is plain to see and therefore easy to believe these effects. But the treatment of the predisposing cause is not so plainly seen, therefore not so readily believed or understood. It is none the less true, however, and it is successful and scientific. Thus, the removal of the predisposing cause is effected by virtue of the law of *similars*; a law once doubted, but now acknowledged both in theory and practice by many of the most careful and scientific therapeutists of the medical schools of the present day. Bartholow, Ringer and Phillips, tell us that small doses of *mercury* will cure bilious diarrhœa; that *ipecacuanha* will cure vomiting or a mucous cough. The fact that small doses of *digitalis* will prove a stimulant to the heart, is as well known as that large doses will depress its action. The late Dr. Beard said that there was no opiate which would so quickly allay vesical irritation as small doses of *cantharides*. Who does not know that large doses produce irritation and stranguary? Hundreds of medical men whose honesty and ability cannot be questioned, tell us of unmistakable curative results obtained by prescribing in small doses the remedy which, if given in large doses, would produce similar symptoms.

How this is done, what the *modus operandi* is, we do not know. Neither do we know why vaccination prevents the patient from taking small-pox. We know that we introduce an agent which will produce a similar set of symptoms, and that the effect of its operations in the system are such that the small-pox germ does not develop.

In prescribing according to the law of similars we select drugs which have the power of producing a similar set of symptoms, as for instance *cantharis* in cases of stranguary and *ipecacuanha* for vomiting.

We do not know the etiology of peritonitis, meningitis, dysentery, croup or pneumonia, therefore cannot apply the germicide. But by carefully directing our efforts to the removal of the predisposing cause; in other words, the second factor; and selecting from such drugs as *aconite, arsenicum, mercurius, phosphorus, bryonia* and *spongia*, applying each according to its pathogenetic indications, we obtain as successful results as when we apply the germicide in ague or itch.

I ask, Mr. President, if this is not a rational view of therapeutics? Shall I call my brother physician a quack because he cures ague with *quinine*, and I cure the same disease with *natrum muriaticum, ipecacuanha, nux vomica* or *eupatorium?*

Another point, I am told that some of the old members of this society have withdrawn because the name "homœopathic" has been omitted from its title. Is there nothing in the science of medicine but homœopathy or allopathy? Would that the blinding scales of illiberality might drop from the eyes of medical men. Would that adherance to sects and creeds and dogmas might have less influence, and that all medical men might, without prejudice, become earnest seekers for truth.

Who shall be first to find the undisputed bacteria that produces diphtheria, and also its germ-destroying drug? Who first to tell us how to eradicate the predisposing cause of phthisis, or Bright's disease? Here are unexplored fields for the greatest and best, where bright laurels will be won during the next decade; while on the other hand, the contestants for creeds and pathies, codes and potencies, will have been forgotten and trampled out of sight by the steady march of medical science.

## CLINICAL MEDICINE.

### EPIDEMIC MALARIAL FEVER.

Dr. W. E. Rogers, of Rexford Flats, Saratoga County, described in a short paper the peculiarities of epidemic malarial fever, as he had observed them, as follows:

Malarial fevers have been epidemic in this region during the past two years, and have, so to speak, compelled all other diseases to wear their livery.

*Symptoms.*—The more prominent symptoms are: Headache, mostly in the occiput; disordered stomach, manifested by loss of appetite, unpleasant taste in the mouth, tongue and mouth dry, sometimes nausea and vomiting; and severe pains in the back and lower extremities.

*Type*—The type has been chiefly quotidian and tertian; and the paroxysms generally well-pronounced, and manifested by a decided chill, followed by fever and sweat. The pain occurs mostly during the chill. The temperature is often high, sometimes 105° or 106°.

*Causes.*—The only unusual condition to which this epidemic might possibly be attributed, is the construction of the Boston and Hoosick Tunnel railroad, requiring vast excavations and the formation of immense embankments, one of which is thirty feet high and more than half a mile in length. The exposure to the sun of

vast quantities of sand and clay, taken from deep excavations, may have been one of the principal causes.

*Treatment.*—The management of the disease has not been very difficult. *Bryonia, mercurius solubilis* and *ipecacuanha* hold the first place. These are usually followed by *eupatorium, quinine* and *arsenicum*. In some cases, in which the paroxysms came in the afternoon and evening, *cedron* has acted promptly. When the pain in the back, head and limbs has been unusually severe, *morphine*, used hypodermically, has often afforded temporary relief.

Dr. H. M. Paine stated that the utility and applicability of *quinine* in intermittent fever was not a new subject, records of very full discussions thereon having been published in the reports of the proceedings of previous meetings of the Society. The general conclusion arrived at, as indicated by the report of the last annual meeting, seemed, with remarkable unanimity, to show that it was not wise to administer *quinine* until after the paroxysms had developed a purely intermittent type; that when given too early its action was not as uniformly satisfactory, and that when the intermittent form had been reached, even then too large doses were not advisable.

The prevailing practice, as stated at the meeting, showed that *quinine* was usually given in half-grain or grain doses, and then seldom over four grains in twenty-four hours.

A favorite plan seemed to be to diminish the doses from day to day, except on the days prior to the septenary or critical days, viz., the sixth, thirteenth and twentieth, reckoning from the day of the last chill. On these days four grains should be given, in order to anticipate a relapse on the seventh, fourteenth and twenty-first days. It is customary also to give, at the same time, such other homœopathic remedies as may be indicated.

Among these he had resorted to the use of *nux vomica, ipecacuanha, eupatorium per.*, and *arsenicum*, and had found them very useful in controlling the tendency to repeated and frequent relapses so common in this disease. The *nux* is used in the first dilution; the *ipecacuanha* and *eupatorium*, mother tincture, equal parts, in combination; the *arsenicum* of the third decimal dilution. These three preparations are to be given in alternation, in doses of eight or ten drops, at intervals of two or three hours.

This method had been instrumental in completely breaking up the tendency to a periodical recurrence of sudden seizures, evidently a sequence of malarial poisoning. The patient, a lady, had been a sufferer from these attacks more than thirty years. The paroxysms occurred with more or less regularity three or four times a year, and sometimes, when overtaxed or fatigued, at intervals of a few weeks. The symptoms were chiefly: fever, preceded oftentimes by a chill, headache, nausea, pain in the neck and back, and in fact in every part of the body. The paroxysms were often sufficiently severe to interrupt ordinary duties, and compel confinement to her room and bed three or four days.

The disease was contracted while a resident of Michigan. The paroxysms, although not as intense or of as long duration as when a resident in the West, had been for years a constant menace of sudden inability to attend to usual daily avocations, and thereby a source of annoyance and inconvenience of no inconsiderable proportion.

The remedies given in this case were *nux, ipecacuanha* and *arsenicum*, and were taken, without long intermissions, more than two years. The paroxysms gradually diminished in frequency and intensity and finally ceased altogether. Several other cases have also yielded to the same treatment, although none were as obstinate or of as long standing.

Dr. Farley stated that he had always succeeded in curing cases of suppressed intermittent, or "dumb ague," by means of a few doses of *nux vom.* of the first trituration, combined with three or five parts of *natrum muriaticum*.

Dr. Stratton, of Lee, stated that the disease had been prevalent in some localities in Berkshire county, during the past few years, but was now subsiding.

*Habitat.*—A vast amount of evidence regarding the origin of malarial fever had been recently obtained, in connection with a celebrated law suit, growing out of the overflow of many acres of lowland covered by a mill pond.

Evidence was adduced showing that about three-fourths of the surface had been covered by the water of the pond for more than forty years; also that the remaining fourth had been covered by water, at a uniform height, in precisely the same manner, for more than seven years prior to the advent of the intermittent type of fever.

It was claimed that the germs of the disease originated in the decay of vegetable matter in and about the pond, together with the increase of moisture in the air by evaporation of the water, under the action of the heat of the sun. But no expert could determine, even approximately, the amount and bearing of either upon the elements which were deemed essential to the production of malaria in any given case; neither could any one with these factors given, produce a paroxysm of intermittent fever.

It was shown that the epidemic came from the South; that the disease appeared first on Long Island Sound, and passed northeastly through the State of Connecticut, covering a tract of about twenty miles in width; that in some localities it followed the course of streams and in others appeared on the hills.

The fact was also brought out that a greater number of cases occurred late in winter and in the early spring, after and while the pond was frozen over.

At present, and for many months past, with all the external conditions remaining precisely the same as during the prevalence of the disease, scarcely a single case is to be found within the limits of the epidemic.

The evidence adduced at this trial, for and against popular theories regarding the habitat of intermittent fever, its mode of development, and other peculiarities, seemed to establish the fact, if nothing more, that scientists were still profoundly ignorant of its essential elements.

It was shown that the disease made its appearance alike on lowlands, and on high; where heat and dampness were the rule, and where dryness predominated; where local causes, or what were supposed to be fostering influences, favored its development and where none of these aids were known to exist.

The mass of testimony on these points was very great, and was as diverse, contradictory and confusing as can possibly be imagined.

*Change of Type from Typhoid to Intermittent.*—One striking feature of this epidemic, worthy of special notice, was brought out by the before mentioned investigation, viz., the disappearance of typhoid with the advent of malarial fever.

The beauty, picturesqueness and salubrity of the renowned Berkshire hills, have a single drawback—the prevalence of typhoid fever during the fall and winter months. Here it seems to find its favorite nidus. Here its severest and most obstinate forms are not infrequently met with. Hence its almost entire disappearance on the inception of the foreigner of the intermittent type, and its re-appearance, after an absence of four or five years, on the subsidence of the latter, is a point not to be overlooked.

It is a common belief that typhoid fever has its origin in germs which find a nidus in the gases generated in and about sink-drains, cesspools, sewers and water closets, where these gases are often rapidly formed and highly concentrated. In this instance, however, conditions which contributed to the growth and development

of these germs, apparently remained the same; the influences, therefore, which produced the epidemic of the intermittent type were sufficiently powerful for the time being to neutralize or destroy the forces which cause in ordinary seasons the remittent or typhoid form of fever.

What the essential elements of these forces or influences are; how they may become interchangeable, as in this instance; how to anticipate their advent and arrest their development, are questions beyond the ken of the wisest experts and ablest scientists.

*Treatment.*—*Gelsemium* is of service at the beginning of treatment, and with it, usually, one or two doses of *podophylin*, 2d. When the paroxysms had fully developed the intermittent type, the use of *quinine* was resorted to, and never in larger than single grain doses. One dose to be given the evening preceding the anticipated chill, and followed the next morning by three doses, at 8, 9 and 10 or 11 o'clock. This course to be repeated until the chills fail to put in an appearance, when the doses of the *quinine* are to be gradually diminished, and entirely discontinued as soon as the general appearance and condition of the patient will permit.

In addition to the use of *quinine*, he has found that *mercurius, arsenicum, bryonia, gelsemium* and other remedies, are required in the treatment of nearly all cases.

*Case of Threatened Phthisis Pulmonalis arrested by an attack of Malarial Fever.*—Dr. Gorham stated that his brother, twenty years of age, had for more than a year been suffering from failing health, having all the ordinary symptoms of incipient tuberculosis. There was cough, expectoration, prolonged expiratory murmur, pleuritic pains, and temperature constantly at 99.5 to 100.5. Notwithstanding the most approved hygienic measures and medical treatment, he was evidently growing worse.

He finally contracted malarial fever, of a remittent type, developed by exposure to sewer gases emanating from an old open drain. The afternoon paroxysms of fever were intense; on two successive days the thermometer indicated a temperature of 106. He made a rapid recovery, however, and his general health at once began to improve. During his convalescence all the symptoms of lung trouble steadily diminished, and at the end of six months he had recovered sound health.

Inasmuch as Dr. Koch claims that a temperature of 106 will destroy the bacillus, I am of the opinion that this case of phthisis was cured by high temperature incident to the attack of malarial fever.

### GONORRHŒAL OPHTHALMIA.

Dr. G. S. Norton, of New York, contributed a paper with the above title. The following abstract embraces the essential points.*

C. F., male, 22 years of age, came to the clinic July 23, 1883. Two weeks previously, while suffering from gonorrhœa, his right eye became inoculated with the discharge, creating a severe attack of inflammation which steadily increased to the date of admission.

*Symptoms.*—The lids were greatly swollen; chemosis excessive, the conjunctiva protruding so as to prevent closure of the lids; a small part of the centre of the cornea was clear; the discharge moderately profuse.

*Treatment.*—The patient was at once put to bed; the left eye covered with a watch crystal and hermetrically sealed; iced cloths were then applied to the right eye and a solution of *nitrate of silver*, first dilution, applied locally, and the third potency of the same remedy was given internally.

*July 24th.*—Condition of the eye about the same; ulceration of the cornea had commenced; ice was continued; *rhus tox.* 1st, and *hepar. sul.* 1st, were given in alternation.

*July 28th.*—Discharge somewhat less; the whole cornea seemed to be sloughing; the excessive chemosis still continued; has thus far had scarcely any pain, perforation of the cornea seemed impending; *eserin* of the strength of one part to two hundred was applied, and *hypophosphate of lime*, 1st, was given internally.

*August 1st.*—There has been decided improvement under the influence of the *calcarea*. The ulceration appears to be checked, although a small perforation of the cornea has taken place; the cornea is clear, and the chemosis much less.

*Aug.* 15th.—The improvement has steadily continued; the cornea is clear except a small macula at the upper portion; the redness very slight; no chemosis; no discharge; a posterior synechia had formed which could not be torn with *atropia;* vision was fair. He was soon allowed to return home.

*Concluding Statements.*—The important points in the treatment of this case are: The use of *ice*, which was very beneficial, and proved very soothing. Ice should have been employed earlier, in order to obtain its full effects. The utility of the *phosphate of lime*, improvement having taken place immediately after its administration.

Dr. G. L. Munson, of Albany, reported the following history of a case which he had recently treated:

Dr. O. S., aged 66, of powerful frame and strong constitution, while attending a gonorrhœal patient, accidentally poisoned his right eye by the virus. For several days the disease remained confined to one eye, when suddenly it appeared in the other.

The symptoms of a purulent catarrhal affection becoming worse, at the end of a week he came to Albany for the purpose of consulting an oculist, and was referred to my office.

There was at this time no chemosis or corneal affection, only an intense catarrhal conjunctivitis, with a slight sanious discharge. He was persuaded to remain one week for treatment at the City Hospital. The lids, both upper and lower, were brushed every morning with a five-grain solution of *argentum nit.*, and frequent applications of *ice* were made to the eyes. On Saturday, July 21st, he returned to his home, very much improved.

The following Monday he presented himself again at my office, with the characteristic greeting: "Ajax asks for light, and wants no more." I soon found that he was suffering from a relapse in the right eye, due to imprudence in taking a long drive in the country the day before.

*Symptoms.*—Right eye; lids red, swollen, tense, but slightly painful to the touch. Chemosis intense, and had spread so as to cover a considerable portion of the cornea; cornea itself hazy, with quite a large, deep circular ulcer at the upper and nasal quadrant; the discharge from the eye was profuse and purulent. The left eye was almost well.

*Treatment.*—The patient was immediately put to bed, and *five leeches* were applied to the right temporal region; *atropine*, two grains to the ounce; I ordered two drops to be applied twice daily. A special nurse at the hospital was directed to apply *iced compresses* to the burning lids, continuously, day, and night, and to cleanse the eye every twenty minutes.

On the fourth day, the lids and intense chemosis having softened considerably, I ventured to make an application of *nitrate of silver*, five grains to the ounce, to the lids, and found the effect most beneficial in controlling the discharge. For constitutional treatment he was given *nitrate of potassium*, as a febrifuge, and frequent laxatives, to prevent reflex irritation.

Under this treatment there was a gradual improvement; the ulcer which threatened for a long time to perforate the cornea, began to heal, the chemosis subsided completely, and the lids once more presented so much their normal appearance, that at the end of six

* The paper will be published in full in the Transactions of the State Hom. Med. Society, vol. XIX, 1884.

weeks he was permitted to return to his home and his professional labors.

*Remarks.*—Mild cases of inoculated ophthalmia are not infrequent, and, when placed early under treatment, are usually cured in three or four days. As an example, one of the night nurses in attendance upon the patient whose case has been previously described, while on duty, through carelessness, inoculated herself with the matter coming from the diseased eye. Treatment was immediately applied, and a cure was easily and speedily effected. A mild astringent (*zinc*), and *ice water* applications were sufficient.

I concur with recent writers in advising the uninterrupted application, day and night, of *ice compresses* to the lids; also careful washing away of the secretion with a soft sponge, dipped in a very weak solution of *chlorine water*, while the inflammation is at its height. As soon as the lids begin to soften and the palpebral and ocular conjunctiva begin to relax their firmness, and the discharge takes on a purulent character, I find weak solutions of *nitrate of silver* to be the best remedy. As the disease begins to decline, the applications of ice may be made less frequently, and a solution of *zinc*, three grains to the ounce, may be substituted for the *nitrate of silver*.

*Application of Ice.*—In reply to the question, why ice applications are required, I may say, that by their uninterrupted use we have a most powerful means of removing continuously the heat of the part, and so directly lessening the febrile action. Again, cold acts as a powerful irritant, forcing the blood vessels to contract, thereby decreasing the amount of blood carried to the inflamed parts much more than any other agent we have at our command. There is also a diminished sensibility of the part, such as to afford very gratifying relief to the patient. In truth, there are few if any contagious ophthalmia in which we do not find ice applications a necessary adjunct for a successful termination of these much dreaded eye diseases.

### PHLEGMONOUS ERYSIPELAS.

Dr. Farley reported the following:

Mr. V., aged 48 years, farmer, received an injury of the second finger of the left hand by being caught in a corn-sheller, the part being extensively lacerated. A neighboring physician on being called in, expressed an opinion to the effect, that the first phalangeal joint was dislocated, and advised amputation at that point. The patient, however, refused to allow an operation. The part was accordingly dressed, a splint being applied to the dorsal surface.

The patient visited my office on the second day after the injury for the purpose of having the dressing renewed. On examining the finger for the first time, I found such extensive laceration of the soft parts on the palmer surface, that I also decided that loss of motion of the joint would inevitably occur, and on that account advised amputation at that point. The patient still refusing to allow an operation, *carbolic ointment* was applied, and the parts were brought together as nearly as possible, and were supported, as best they could be, by a splint and suitable bandages.

After an interval of twelve days I was summoned in haste. The patient had been very imprudent, had assisted in outdoor work, his arm being supported by a sling. He had evidently taken cold; the left arm, from the hand to the shoulder was swollen, red, very painful, and plainly the seat of intense erysipelatous inflammation.

*Treatment.*—*A carrot poultice*, large enough to envelope the whole arm was applied hot every two hours. *Nitrate of silver* was applied to the healthy tissue above the inflamed part, covering a broad surface and encircling the arm near the shoulder,

On the second day after, a *free incision* was made into the tissue near the elbow, from which pus was freely discharged. *Flaxseed poultice* was substituted for the carrot, the renewals being made at intervals of two hours, day and night.

On the following day the pain in the arm was very severe; the swelling had greatly increased; it showed no tendency, however, to go beyond the part to which the silver had been applied. There were chills, fever, copious sweating, thirst, tongue coated white. *Four incisions*, one and one-half inches in length were made, two above and two below the elbow, which greatly relieved the tension. The *poultices* were continued. *Arsenicum* 3d, and *phosphoric acid* 2d, were administered in alternation at intervals of two hours; *quinine* and *whiskey* were also freely given.

The fourth day showed a decided improvement; the chills had ceased; the pain was not as intense; pus was discharging freely from each of the openings. Four additional incisions below the elbow were made. The finger had nearly healed.

The improvement continued uninterrupted to the thirteenth day (thirty-third from the date of injury), when there was a temporary aggravation of all the symptoms; the discharges had nearly ceased, the swelling had increased, and there was nausea and vomiting. The sinuses were *probed freely*; two additional *incisions* were made; *tincture of iodine* was applied to the sores, and *slippery elm* was combined with the *flaxseed* in the preparation of the poultices.

From this time the improvement progressed steadily, the finger healed, the first joint, as was to be expected, remaining stiff. The patient expressed regret that he had not allowed a removal of a portion of the finger.

In the preparation of the poultices, forty pounds of flaxseed and fifteen pounds of slippery elm were used. I am of the opinion that this patient's life was saved by the free incisions, the persistent poulticing, and the supporting treament, which consisted mainly of the use of *arsenicum* 3d, *phosphoric acid* 2d, *quinine* and *whiskey*.

### CASE OF VARICOSE ULCER.

Dr. W. W. French contributed the following record of the condition and treatment of an ulcer on the leg.

The patient, a stout, fleshy woman, of about seventy years of age, had been suffering four or five weeks from an ulcer, as large as a silver half-dollar, on the left leg, two inches above the ankle joint; this being the second ulcer in the same location, a similar sore having existed several weeks two years previously.

I prescribed *arsenicum*, sixth, two doses daily; also furnished a supply of the same remedy, of the third potency, to be sprinkled on the sore once daily; a bandage was also firmly applied from the middle of the foot to near the knee. The next day, there being no improvement, ordered an application to the sore of *sulphide of soda* instead of the *arsenicum*, which caused considerable burning and itching in the ulcer. On the fourth day, there being still no improvement, *mutton suet* on lint was applied, and adhesive straps were put on, crossing each other in such a manner as to draw the edges from all sides toward the centre of the sore. The leg was then firmly bandaged as before.

This process was repeated every second day, for two weeks, when the sore had entirely healed. The *arsenicum* was continued internally during the whole time.

### SCIRRHUS OF THE BLADDER.

Case reported by Dr. C. J. Farley. A neighboring physician requested me to assist in making a post-mortem in the case of M. F.

The patient, thirty-seven years of age, previous to his decease had been sick about two years, the suffering arising chiefly from difficulty in urinating. He had been treated by several physicians, a part of the time at a hospital at Montreal, where a thorough examination was made, and his disease declared to be chronic inflammation of the neck of the bladder.

The patient had experienced at times excruciating pain of a burning character, with constant desire to

micturate; there was also, at times, a discharge of blood and mucus. Large doses of *morphine* were repeatedly administered for relief of the pain.

The autopsy disclosed the following: the neck and a portion of the body of the bladder was the seat of a malignant scirrhus growth. There were many indications, prior to the death of the patient, showing almost positive evidence of cancer. Among the more prominent were the persistent dysuria, the nature of the discharges, the lancinating pain of a burning character, the emaciation, and the peculiar sallow complexion. Then, too, in all probability, a microscopical examination of the urine, blood, and mucus, would, at least, have thrown great light on the diagnosis and prognosis of the case.

CARDIAL DROPSY.

Case reported by Dr. C. J. Farley. Mrs. H., aged 40, light hair, blue eyes, mother of six children, the oldest being nine years, the youngest a babe of four weeks.

*July 1st*, 1882.—The patient gave me the following history: Illness began last December, resulting from a severe cold, which was followed by a hard, dry cough; is unable to lie down in bed; on two occasions has raised blood freely from the lungs; has acute pain in the left side; a feeling of fullness of the throat, the secretion of urine a greater part of the time is scanty and of a high color; temperature 102; respirations 40; the bowels are constipated, the lower limbs are greatly anasarcous, and the patient has been steadily growing worse, although *cod liver oil*, *whiskey*, *rock* and *rye*, had been freely given.

On making a thorough examination I discovered a condition of the heart which evidently produced the symptoms previously described. I prescribed the properly indicated homœopathic remedies one week, without improvement, and then called in Dr. H., who agreed with me as to the true cause of the disease, and advised the use of *cactus*, *nitrite of amyl* and *cannabis indica*, which, after a trial of another week, yielded no better results. The patient was evidently growing weaker. "This dropsy," said she, "will kill me unless something is done immediately." I was at a loss to determine what course to pursue. As the kidneys were secreting little or no urine, I finally concluded that possibly the water might be conveyed away through the bowels and accordingly prescribed the following: *gamboge*, 12 grains; *colocynth*, 8 grains; *elaterium*, 2 grains; *croton oil*, 8 drops; *extract of strammonium*, 3 grains. The whole to be made into 12 pills, not more than three of which were to be taken in twenty four hours.

This prescription produced from fifteen to twenty evacuations, the first of a bilious character, the last watery. These were followed by decided relief of all the symptoms, which appears to be permanent, the kidneys having from that time perfomed their normal functions. *Cactus*, *cannabis indica*, *arsenicum*, and *beef*, *iron* and *wine* were subsequently given. The patient slowly recovered.

SCIATICA.

Dr. C. J. Farley reported the following case of sciatica. Mr. V., aged 40 years, had been subject for several years to attacks of sciatic rheumatism. Was attacked December 10, 1881, with "crick in the back," the pain extending to the left hip, following the course of the sciatic nerve to the foot. The patient had fever, thirst, constipation, tongue coated white, temperature 100.

*Treatment.*—Ordered an *aconite* and *belladonna* sweat, which afforded only slight relief. Applied mustard paste to the thigh and roasted onions to the sole of the left foot. Gave *rhus tox.* tincture, and *colocynth* 1st, in alternation at half-hourly intervals, which afforded partial relief, the pain however, continuing quite severe, *hypodermic injections of morphine* were resorted to, and *compound cathartic pills* were given to secure action of the bowels.

Under the action of *aconite*, *arnica*, *rhus tox* and *colocynth*, and the application of *morphine* hypodermically, improvement progressed slowly, although continued faithfully ten days. At this juncture I ordered the application of four *fly blisters* along the course of the sciatic nerve. Improvement began at once. Several weeks elapsed, however, before the patient was able to rest the heel down on the floor when standing.

(*To be Continued.*)

## *TRANSLATIONS, GLEANINGS, ETC.*

### THE GELATIN BANDAGE.

In the treatment of certain skin diseases (such as eczema, psoriasis, etc.), it has been customary to apply remedies which so obscure and cover up the affected parts that no opportunity is afforded to observe the condition of the skin after an interval of time. It is quite well known that the most commonly adopted treatment of the above class of skin diseases is that recommended by Hebra, namely, by means of tar And there can be no doubt that the antiparastic and antiseptic properties of tar are highly beneficial in such cases. Still, when a large portion of the skin of the body is involved, the tar treatment becomes very disagreeable and repulsive. "As one passes through the wards in Vienna" (writes Dr. Rob. B. Morison, of Baltimore, in the *Medical Record*, July 28, 1883, from which we have compiled this abstract), "the patients are seen lying upon beds between two blankets, which, from the constant use of tar, have become so impregnated with it that the picture is anything but an agreeable one. Add to this the patient himself, covered often with a thin layer of this dirty-looking mass from head to foot, and one realizes that such treatment can only be used as a *dernier ressort*."

Recognizing these drawbacks, Dr. Pick, of Prague, has looked about for a substitute for tar, and has finally devised a treatment which, for simplicity, cleanliness and beneficial effects, leaves nothing to be desired. [While our main object here is to describe the so-called *gelatin bandage*, the use of which will suggest itself in many cases besides the skin diseases mentioned above, we will briefly outline the other steps of treatment adopted by Prof. Pick, and described by Dr. Morison.] "Instead of the troublesome use of powders and salves which in Vienna must be applied at least twice a day, the patient in Prague has immediately wrapped over his diseased parts linen bandages smeared with *unguentum saponis*, containing five to ten per cent. of *salicylic acid*. This is applied in any stage of the disease, and left *in situ* for a week.

"The *salicylic acid* must be thoroughly well mixed with the soap ointment whilst warm, and this must be spread, when at about the consistence of butter, evenly upon short linen bandages, which should not be more than one and a half inches in width, and even much narrower, when applied to fingers and toes. The ointment should not be in a thicker layer than the back of an ordinary table-knife, and should be spread fresh every time it is used. It is not well to mix too large a quantity of the ointment, as upon standing it hardens and is more difficult of application.

"After the bandages are applied, they are covered with tricot, which is manufactured, in various sizes and at small expense, specially for Prof. Pick in England. A patient thus dressed *is able to go about his work* with no inconvenience to himself and no injury to his clothes. After a week's time, he appears at the hospital, the bandage is removed, and the disease examined. If it is found necessary, from the still remaining inflammation and induration, a fresh bandage is applied and left on for another week. Then the gelatin is applied in the following manner:

"GELATIN BANDAGE.

"A portion of a mass made by dissolving fifty grams of the purest gelatin in 100 grams of distilled water, and which has been allowed to cool previously, is melted by putting it in a cup, and placing the cup in hot water. To this is added the required strength of *salicylic acid*, usually five per cent. When sufficiently cool, this mixture is painted upon the diseased parts with a painter's brush made of bristles, such as is used in applying tar. The layer of gelatin is made about as thick as a sheet of writing paper, and, after it has dried, is gently covered with a minimum quantity of *glycerin* spread on with the hand.

"The use of *glycerin* is found to be necessary to render the gelatin layer pliable, and to prevent its contracting, which it otherwise would do with considerable force; sufficient to irritate the skin. It is also worthy of note that it *is not practicable* to mix the *glycerin* with the gelatin before it is applied, as it prevents its hardening sufficiently, and renders it sticky. It takes a very small quantity of *glycerin* only, after the gelatin has dried upon the skin, to render it soft and pliable. A few trials will teach the nurse the amount required. This use of *glycerin* obviates the only bad effect which gelatin can possibly have. With such a gelatin bandage, a patient seldom feels the slightest itching, the diseased parts are seen through the transparent layer, thus rendering the progress of the disease visible without the removal of the application, and, what is more agreeable to the patient, an ordinary bath removes all traces of it. So easy is this method of treatment that the patient can make his own applications in most cases.

"In making the gelatin mixture, the gelatin should be dissolved in distilled water and heated in a porcelain capsule. After stirring thoroughly, it is allowed to cool, and forms a cake which takes the form of the capsule. This cake can be kept for any length of time in paper, and the necessary quantity broken off every time it is to be used. The *salicylic acid must be kept separate* from it, and only added to the *glycerin* when it is melted. The mixture should not be painted upon the skin unevenly or in a thick layer. When properly applied, it can be torn from the skin in quite large pieces, and it comes off without pain to the patient or irritation to the disease. It sounds like the tearing of tissue-paper, and when thus torn off, looks as if the patient was having his epidermis removed by force

"Any holes or rents in the gelatin covering may be repaired from time to time by a fresh application. The indications for the renewal of the whole covering are when it has worn off, or after a bath."—*New Remedies.*

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DIAGNOSTIC VALUE OF UTERINE HEMORRHAGE AFTER THE MENOPAUSE.—During the course of a late clinical lecture on malignant disease of the cervix uteri, Dr. T. Gaillard Thomas stated, as an axiom in gynecology, that if a woman who has normally ceased to menstruate begins to have uterine hemorrhage, always suspect carcinoma. Not unfrequently you will see in the medical journals the reports of cases where women who have passed the change of life have begun to menstruate regularly again; but such accounts are altogether deceptive, and, if these cases could be followed out, it would be found, with scarcely a single exception, that the uterine flow was merely the indication of the presence of malignant disease. In other words, there is absolutely no such thing as the return of the menses when a woman has once reached the normal menopause. In the uterus of a woman of sixty, polypi never develop. The organ at that age is completely atrophied. Sometimes in women who have passed the menopause you will find uterine tumors which have all the appearance of fibroids. They are not by any means fibroids, however, but sarcomata. —*N. Y. Med. Journ.*

MR. OSBORN, the chloroformist to St. Thomas Hospital, London, in the course of a paper entitled, "Some Further Remarks on Anæsthetics and Their Administration," in the report of that institution for 1882, makes the following points which are important enough to bear frequent quotation:

Dilatation of the pupils is a sign that the anæsthetic has been pushed far enough, and its administration should be discontinued.

Flaccidity of the limbs is no sign of cutaneous insensibility.

The inhalation of *ether* may produce exanthematous patches on the face and thorax. Cases have been removed from the operating table under the impression that an outbreak of an eruptive fever had begun, and that the case was unfit for operation.

The origin of this phenomenon is to be found in paralysis of the vaso-motor nerves. Moreover, if genuine skin eruption be present it is by the same cause made more prominent.

A false impression may be conveyed when feeling the pulse, where the patient lying upon the arm compresses the main artery.

*Chloroform* is better for all operations about the mouth, staphyloraphy, excision of tongue, etc., since *ether* not only excites the flow of saliva and increases vascularity, but the mouth being open they return sooner to consciousness.

The element of danger is more often present in rectal operations, but whether from the fact that all *bloodless operations are dangerous in plethoric individuals*, or because diseases of the bowels are very depressing and the sensitiveness of the rectum requires a higher degree of anæsthesia, is uncertain.

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THE INVENTOR OF THE TELEPHONE.—Prof. S. B. Thompson, of England, has very thoroughly investigated the inventions and researches of Johann Philipp Reis, a German, and he finds that this man discovered the electric transmission of speech in 1860-61 and that he used devices and instruments corresponding with those now used in what is known as the Bell system of telephony.

The full establishment of the facts as presented crushes the Bell telephone monopoly as with the weight of a mountain. The telephone becomes the property of the world, open and free to all. This is a consummation devoutly to be wished. In the light of historic facts, the decision of the courts of the United States, that Bell is the discoverer of a new and useful art, the electric transmission of speech, to which he has exclusive title, must be reversed as speedily as possible, that our courts may retain the respect of the people of the United States.

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As the result of six years' experiment in the treatment of syphilis (*Med. Press*, April 18, p. 335), Dr. C. Drysdale, after fully discussing the plans of Ricord, Fournier, Diday, Sigmund, Ziessl, and especially Keyes, concludes that treatment should be continued from the appearance of the initial lesion, very small doses of *mercury* being continued "for months." In severe symptoms, inunctions or calomel vapor baths are recommended, or fractional doses of *mercurial salt* should be given for a week or so every four hours, in combination with large doses of the *iodides of potassium, sodium*, or *ammonium*. In gummy deposits the chief remedy is *iodide of potassium* in large doses, but a tonic dose of some mercurial salt may be added; he agrees with Keyes, in regarding minute doses of *mercury* as tonic, and says they may be given even for years with advantage in some cases of anæmia.

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TO REMOVE PAPER LABELS FROM OLD BOTTLES.—Wet the face of the label with water, and hold it for an instant over any convenient flame. The steam penetrates the label at once, and softens the paste.

## HINTS ON CHRONIC CONSTIPATION.

The prevalence, as well as evils, of chronic constipation have been commented on from the earliest days of medicine, and the remedies which have been suggested for the relief of this condition are very numerous. The more thorough conception of the condition which manifests itself in this symptom, has made the modern treatment of it more successful than that of previous years; but in spite of this improved conception the empiricism which characterizes the treatment of constipation is still of such a nature as to reflect but little credit upon scientific medicine. Physicians are all too apt to defer in its treatment to the popular belief in the omnipotence of drugs. In the treatment of constipation, more emphatically perhaps than in the treatment of any other condition, drugs are more successful, as they are the handmaids of nature, and all attempts made to relieve this condition with drugs alone, and regardless of the rules of correct living, must be doomed to disappointment from the beginning.

In an article in a recent number of the Canada *Lancet* Dr. Haultain discusses some of the non-medical adjuvants to the remedies administered for the relief of constipation. An attention to the rules which he formulates would, in our opinion, cause the medicines exhibited to be attended with much more satisfactory results than is now the case.

*First.*—Regular attempts at defecation should be made daily, with a view to educating the bowels to the act. The patient should make the attempt not only after breakfast, as usual, but also after the midday and evening meals.

*Second.*—The ingestion of a glass of cold water before each meal, and the supplementing of the last meal of the day with a small quantity of spirits, diluted with hot water. This method of taking spirits is very common among the lower and middle classes of England, and Dr. H. maintains that it has a very decided influence on the peristaltic action of the intestines, and is preferable to any stomachic.

*Third.*—The abdomen should be kneaded with the fingers, especially along the descending colon, sigmoid flexure and rectum while at stool, and in the intervals of expulsion of feculent matter. The theory upon which the success of this method depends is that the colon, rectum, etc., do not become distended to the extent which they otherwise would be, and are, were there only the usual evacuation in the twenty-four hours.

While the above instructions are valuable in the main, we can scarcely endorse Dr. Haultain's opinion that they are of themselves sufficient to break up the constipated habit. This habit depends on causes which the best directed efforts at "education" of the muscular structure of the intestines cannot overcome. While the expulsive efforts of the voluntary muscles of the abdomen are very essential to defecation, the tonicity of the non-striped or involuntary muscular fibre of the intestines must be restored, in order that it may contract under the physiological stimulus. This tonicity can only be satisfactorily restored by medicines.—*Therap. Gazette.*

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HYPOPHOSPHITES OF LIME IN CANCER.—The following is Dr Hunter McGuire's formula for the use of hypophosphites of *lime* and *soda* in cancer of the breast:

℞.—Hypophosphite of Lime and Soda..... ℥ ss.
Diluted Phosphoric Acid. ..... ℥ ss.
Distilled water..... ℥ viij.

M. Sig. Teaspoonful in water three times a day, and when indicated he sometimes uses in addition, *arsenic* and *iron* in the forms of chlorides of *arsenic* and *iron*.

There can be no doubt that the progress of the cancer can be delayed by the use of this combination.

TABLE SHOWING THE POINTS WHICH DISTINGUISH ECZEMA CAPITIS FROM SYPHILITIC ECZEMA CAPITIS, SEBORRHŒA CAPITIS, PSORIASIS CAPITIS, AND TINEA TONSURANS:

| ECZEMA CAPITIS. | THE SO-CALLED SYPHILITIC ECZEMA CAPITIS. |
|---|---|
| 1. Occurs oftenest in children. | 1. Occurs usually in adults. |
| 2. Often attacks the whole scalp. | 2. Usually occurs in small patches. |
| 3. Itching often severe. | 3. Usually absent. |
| 4. Exhibits superficial ulcers only, if any. | 4. May exhibit deep ulcers, with perpendicular edges, and unhealthy bases. |
| 5. Occurs in persons in whom there is no history of primary syphilis, except as a coincidence. | 5. Occurs in persons from whom a history of primary syphilis may be obtained. |
| 6. Does not occur in connection with symptoms of syphilis, except as a coincidence. | 6. Occurs usually in connection with other signs of syphilis, *e. g.*, alopecia, sore throat, other syphilitic eruptions on the skin, nocturnal pains, etc. |
| ECZEMA CAPITIS. | SEBORRHŒA CAPITIS. |
| 1. Exhibits crusts which are brittle, are often very thick, and are composed of pus, granular matter, and epithelium. | 1. Exhibits crusts which can be kneaded into a ball, are usually thin, have an oily feel, and are composed principally of sebaceous matter and epithelium. |
| 2. Is excessively itchy; and after removing the crusts, the scalp is infiltrated, red, often excoriated, and exudes serum or pus. | 2. Is not excessively itchy; and after removing the crusts, the scalp is not infiltrated, red, or excoriated, exudes neither serum nor pus, but is smooth and oily. |
| ECZEMA CAPITIS. | PSORIASIS CAPITIS. |
| 1. Occurs oftenest in those whose health is below par. | 1. Occurs oftenest in those who are apparently in robust health, and who are well nourished. |
| 2. Edges of patches not abrupt, but gradually shading off into the healthy skin. | 2. Edges of patches abrupt. |
| 3. Is usually very itchy. | 3. Is usually not very itchy. |
| 4. Often moist and exuding. | 4. Is with rare exceptions a perfectly dry eruption throughout |
| 5. Exhibits thick, yellowish, usually moist crusts, or, if scaly, the scales are looser and not silvery. | 5. Exhibits usually white, dry, silvery, adherent scales. |
| 6. Occurs often in connection with eczema of other parts, as of the ears, etc. | 6. Occurs generally in connection with psoriasis of other parts, especially of elbows and knees, where the diagnosis is easy. |
| ECZEMA CAPITIS. | TINEA TONSURANS. |
| 1. Patches not circular, although the hair is often cut short in a circular manner with scissors. | 1. Patches often circular. |
| 2. Hairs healthy (though they may fall out here and there), and exhibit no parasite. | 2. Hairs often brittle; twisted, or broken off close to the scalp; thickened and often white; loaded with the parasite (trichophyton tonsurans). |
| 3. Itching usually great. | 3. Itching usually slight. |
| 4. Eczematous eruptions often on other parts of the body. | 4. Tinea circulata often present. |
| 5. Not contagious. | 5. Contagious, especially to children, and often other members of the family exhibit ringworm of the head, body, or beard. |

—McCALL ANDERSON, *Journ. of Cut. & Ven. Dis.*

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SULPHATE OF QUININE.—The action of *sulphate of quinine* should never be maintained beyond a week, and rarely longer than forty-eight hours. The stimulating and tonic effects of *asafœtida* have, on account of a widely prevailing prejudice, fallen into neglect, but it is safe to say *quinine* is too often used when *asafœtida* is indicated. Many a neurasthenic patient has been made worse by *quinine*, when *asafœtida* would have cured. This is especially true of hysterical women, and not less so of aggravated types of asthenopia in thin and debilitated people. The question of feeding is one all stock-breeders look to, but, strangely enough, the heads of family ignore it in the family circle.—*Med. Herald.*

CARE OF CHILDREN FOR SEVENTY HOURS AFTER BIRTH.—The *Medical Herald* for October, 1883, contains a paper on this subject by Dr. Jas. F. Hibberd. His concluding statement is as follows:

"When the funis has not been severed until it has ceased to pulsate and the child is then undisturbed by improper washing, irrational dressing and unnatural food, it is found that its digestion is perfect, its nutrition complete and its development without interruption. But if the cord be tied and cut while in bounding pulsation, as recommended by Ramsbotham, Playfair, Glisan and others; if the child be smeared with grease and washed with strong soap and water, as advocated by Dewees and others; if the succulent stump of the prematurely amputated funis be wrapped in a bit of greasy linen seven inches square and bound down to abdomen with a flannel bandage, as suggested by Cock and others; if the child be dressed in a tight linen shirt a flannel skirt, with an inelastic muslin band pinned closely around the thorax, with a frock and a wrapper and a shawl over these, as is a frequent custom; if the infant stomach, dormant since its embryotic formation, is to have its new permanent function awakened by the introduction of 'a few dessertspoonfuls of warm sugar and water one hour after birth, and repeated every two or three hours,' as ordered by Cazeaux; or by purgative doses of molasses and water, or *castor oil*, as ordered by Dewees; or by Panada, *catnip tea*, or other popular abominations; if the infant has to suffer all these assaults upon its natural physiological rights, we may expect it to have its digestion imperfect, its nutrition incomplete, and its development sadly and painfully interrupted, while its loud and frequent wailings proclaim its sufferings from colic, from diarrhœa, from thrush, from a sore navel, from intertrigo and from sundry cutaneous eruptions, while soothing, quiet and refreshing sleep are banished from its fretted organization."

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THE use of well-diluted alcoholic liquors at table, especially at dinner, should be encouraged, as tending to promote a vigorous digestion, and thereby removing one of the great sources of intemperance in the use of alcoholic liquors. People with normal appetite and vigorous digestive power have not that craving which capricious appetite and impaired nutrition create. Hence persons in vigorous health have little or no desire for tipples. A great remedy for intemperance and crime seems to be regular mental and physical occupation and an improved system of dietetics for the common people. New England must learn that the fruit sauces, the preserves, the pie and the jellies have little nutritive power, and that they contain indigestible ferments which provoke engorgement of the lymph-channels and lay the foundation of disease. Professor T. Gaillard Thomas, in his latest edition of the classical treatise on Diseases of Women, makes the remarkable statement that many die in the rural districts from starvation, because of prejudice or of ignorance concerning the value of well-diluted alcoholic liquors as aids to digestion.—*Med. Herald.*

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SALICYLICATED STARCH.—This, according to *New Remedies*, is highly recommended by Kersch as an application in eczema, and is prepared by gradually incorporating pure starch, in small quantities at a time, and under continued stirring, with a two or three per cent. solution of *salicylic acid* in *alcohol*. The latter must be present in such quantities that, when the starch has settled, it is still covered oy a layer of the solution. The latter is then poured off, the residue pressed in stout muslin, and dried at 80° C. (176° Fah.)

The affected parts are first deprived of scales, grind, etc., with a two per cent. solution of *carbolic acid* and potash soap. They are then dried with absorbent, antiseptic cotton, then moistened with a two per cent. solution of *salicylic acid* in *alcohol*, and finally densely covered with *salicylicated starch*.

THE PROPAGATION OF DISEASE BY BOOKS.—When preventive medicine is searching out and checking all possible means by which infectious and contagious maladies are spread, the part which books may play in the propagation of disease should not be overlooked. There can be no doubt that the specific contagia of many zymotic disorders, and especially of scarlatina, small-pox and typhoid fever, in the form of particles of material emanations from the bodies of patients, may attach themselves to the covers and pages of books, and so be carried from the sick to the healthy. In private families, all books and periodicals used by a patient during his illness from a zymotic disease had best be burned upon his convalescence. In general hospitals in which zymotic diseases are treated, scrupulous care should be taken that all literature used by patients suffering from contagious and infectious maladies shall be reserved exclusively for use in the special wards devoted to such disorders. We are afraid zymotic diseases are sometimes spread by books through the agency of lending-libraries and second-hand book-shops; and it would be well if the literature of such establishments were occasionally subjected to efficient disinfection. Persons recovering from zymotic disease should remember that it is one of their duties to take care to avoid their infection of the healthy, and they should be taught to refrain from handing to others the books they have used during their illness.—*British Med. Jour.*

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THE CHINESE AS SURGICAL PATIENTS.—"The Chinese," says Surgeon Owen in his report to the Surgeon-General, "stand surgical interference wonderfully well and submit to painful operations in a manner wonderful to witness, thus resembling our Indians. Only in major cases is an anæsthetic administered. Once consent is obtained, confidence is absolute, and they are passive in the hands of the surgeon. In Chinese hospitals the beds are constructed of brick, with a fire place beneath, in which hay, straw and brush are burned for heating. Thus each patient has his own fire, and his food is cooked by it in utensils furnished by himself. A most extraordinary custom is carried out by this strange people, which I have not noticed in any of the books or reports concerning them. As soon as it is judged a person is dying, he or she is removed from the house to the open air, no matter what the weather may be. Should death take place unexpectedly within a residence the inmates depart immediately, as they have the utmost horror of the ghost of the defunct. In the general hospital it is absolutely necessary to remove all moribunds, for if a patient perishes in a ward the occupants all take flight, and no one will knowingly sleep in the room afterward. This circumstance often causes great embarrassment to the surgeons."

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LOCAL APPLICATION OF VASELINE IN SCARLET FEVER.—I have found nothing so efficient in relieving the burning and itching sensation of the eruption of scarlet fever as the inunction of the whole body with *vaseline*. The *vaseline* is simply used by being well rubbed upon the surface of the body with the hand, once or twice a day, and continued as long as the patient complains of burning and itching of the skin. These inunctions soothe and calm the patient in an astonishing manner, and are rarely required beyond two or three days.—DR. J. B. JOHNSON, *in Med. & Surg. Reporter.*

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ETHER IN TYPHOID FEVER.—A French physician considers hypodermic injections of *ether* very valuable in the adynamic forms of the disease. He reports five cases so treated. Two injections, of twenty drops each time, were made daily, and under its influence the patient was aroused and delirium ceased. In pneumonia, these injections are of the greatest utility, as they are in every malady assuming a typhoid form.

TOXIC PROPERTIES OF NITRO-GLYCERINE—ITS THERAPEUTIC USE.—It is not without interest, says *L'Art Med.*, to notice how the old school is continuing *to discover* every day the medicines which have been employed for years in homœopathic therapeutics. M. Bourru has given forth lately the results of his experiments upon the above named dangerous* substance. Having noticed that artillerymen who handled the dynamite frequently complained of migraine, M. B. determined to experiment with the drug and with the following results:

"*First Experiment.*—For five minutes I rubbed a small piece of dynamite in the palm of his hand. Almost immediately there was felt a slight numbing pain along the radical nerve from the base of the thumb to the middle of the forearm. Two hours later, a tensive pair in the forehead and a ringing in the rest of the cranium, as if a coryza was coming on.

"*Experiment Second.*—For a quarter of an hour a piece of dynamite was rubbed between the thumb and index finger. Half an hour later there was painful tension in the nasal and frontal sinuses. All day there was a disagreeable feeling in the head like a migraine of medium intensity, but which did not prevent close attention to work. At the end of eight hours the pain disappeared, upon going into the open air.

"*Experiment Third.*—A small piece of dynamite was tightly held in the palm of the hand for a quarter of an hour.

"Ten minutes later there was a strong tension in the forehead, heat in the face; painful arterial beatings in the neck and temples; slight nausea; slight dizziness, but not interfering with intellectual work. The pain in the head continued until lying down at night and disappeared during sleep.

"*Experiment Fourth.*—A piece of dynamite the size of a lentil was placed upon the tongue. At first there was a sweetish taste, then an agreeable acid taste, and lastly a burning. The mouth was then cleansed, care having been taken not to swallow any of the substance, at the same time rising up to go for some water. At this moment was a sudden onset of vertigo which compelled me to seize hold of the furniture; pressing pain in the occiput; the brain seemed to dilate as if it would burst; the heart beat violently and with rapidity; the arteries of the neck and temples were distended and beat violently; respiratory anguish and slight nausea. An effort of the will was necessary in order to analyze and transcribe the above.

"After five minutes the cephalic and cervical tension diminished; pulse 80 and somewhat irregular.

"Half an hour later the head and heart symptoms were relieved.

"One hour later, on walking out, there was nausea, frontal headache, weakness, exhaustion from incessant yawnings.

"In the evening after partaking of wines and coffee, all the malaise disappeared.

"On the next day, the head was still dull, and there was great desire for quiet, repose and sleep; nevertheless I was able to work as usual."

These experiments show the rapidity with which *nitro-glycerine* acts, and further, that there exists a marked analogy between its action and that of *amyl nitrite*.

According to Korcynsky the affections in which *nitro-glycerine* has proven efficacious, are: 1. Secondary asthma depending upon emphysema; 2. Two cases of cardiac diseases accompanying an aortic aneurism; 3. Palpitations, especially when not due to a cardiac lesion; 4. A case of chorea in a chlorotic young girl; 5. Angina pectoris with or without arterial atheroma and cardiac degeneration.

Hammond recommends the use of *nitro-glycerine* in migraine, epilepsy, epileptiform convulsions, syncope. He uses one or two drops of a centesimal alcoholic solution.—(T. M. S.)

SPECIAL THERAPEUTICS OF SNEEZING.—*Nux vomica.* Coryza, fluent in the morning; fluent during the day and stopping at night, with frequent sneezing. Note especially the symptoms are worse during the day.

*Euphrasia.* Violent irritation to sneeze without cold or apparent cause; profuse, bland, fluent coryza, with scalding tears and aversion to light, worse in evening and during night; profuse fluent coryza with sneezing and discharge of mucus; coryza with scalding tears.

*Sabadilla.* Itching and tingling in the nose; lachrymation during exercise in the open air; occasional sneezing with contractive headache over eyes; fluent coryza with disfigured countenance and dullness of head; sensitive to cold.

*Hepar sulphur.* Catarrh with inflammatory swelling of nose; frequent sneezing; coryza with chills and fever.

*Rhus tox.* Frequent, spasmodic, violent sneezing; aggravated before a storm or in cold or damp weather.

*Dulcamara.* Dry coryza, aggravated in cold air; sneezing; symptoms aggravated in cold or damp weather.

*Drosera.* Frequent sneezing, with or without fluent coryza.

*Dioscorea.* Irritation of nasal passage with much sneezing.

*Aconitum.* Coryza with sneezing; fever, thirst and restlessness; violent sneezing with pain in abdomen or in region of left ribs; coryza with headache; humming or roaring in the ears.

*Argentum met.* Excessive fluent coryza with sneezing; fluent coryza with constant and profuse secretion of mucus; *excessive* fluent coryza with frequent sneezing.

*Euphorbia off.* Frequent sneezing; tingling in the ears, also when sneezing; *roaring* in the ears at night.

*Gelsemium.* Watery discharge from nose; sneezing with headache; coryza, loss of smell; irritation of nasal passage; sneezing, tingling; rushing and roaring in the ears.—*U. S. Med. Invest.*

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THE ACTION OF QUININE UPON THE EAR.—Green (*Boston Med. & Surg. Jour.*, March 8, 1882) has an interesting and timely paper upon the above subject, and formulates his conclusions as follows: 1. Clinical experience the world over is, that *quinine* occasionally produces serious injury to the ears. 2. From our present knowledge, both clinical and experimental, we are justified in asserting that the action of *quinine* upon the ears is to produce congestion of the labyrinth and tympanum, and sometimes distinct inflammation, with permanent tissue-changes. 3. The action of the drug upon the ears should always be considered in prescribing it, and changes in the ears, due to existing or previous inflammation of those organs, constitute a contraindication to the medicine in large doses or for a long time, except under urgent circumstances. 4. Where large and continuous doses are absolutely necessary, an occasional intermission of the administration is desirable, if possible, to diminish the risk to the ears.—*N. Y. Medical Journal.*

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DISTILLED WATER FOR EYE-LOTIONS.—In the London *Practitioner*, Dr. Paul M. Chapman takes the ground that distilled water is not, in all cases, the best vehicle for eye lotions. He says:

"I have tried the experiment on myself and on many of my friends, and the answer is always the same, viz.: That the introduction of distilled water into the eye is attended with much discomfort and smarting, while with normal saline there is no noticeable effect whatever. The practical deduction is this, which I have also verified, that the addition of two grains and a half of *chloride of sodium* to the ounce of distilled water renders any lotion intended to be of a soothing character much more beneficial."

## MISCELLANY.

—Speaking of brains, the Yale student is a better kicker than the Harvard.

—Reading with the teeth closed, for two hours a day, is said to cure stammering.

—The thing to do when you have a cold in the head is to—sneeze. It's sneezey thing.

—Chicago has a blind physician in the active practice of heart and lung diseases as a specialty.

—Is life worth living? That depends upon the liver, —and the digestion, but that spoils the joke.

—According to statistical returns, there are no less than 2,432 female physicians in the United States.

—*Arsenite of bromine* has been employed with remarkable success in the treatment of diabetes mellitus.

—The republic of Gautemala has engaged a Ceylon planter to introduce into that country 500,000 cinchona trees.

—*Oil of turpentine* rubbed into the hands is said to be an effective prophylactic against septic infection in autopsies.

—Egyptian rags are hereafter to be disinfected before shipment to this country, thus avoiding a fruitful source of contagion.

—Two parts of *collodion* to three parts of *creosote* is said to be an excellent remedy for the cavity of an aching decayed tooth.

—A man is living in Philadelphia with his throat cut from ear to ear, nourishment being supplied by means of a catheter through the nose.

—To remove a patient with a fractured leg, Dr. J. Lewis says, bandage the limbs together, that the uninjured limb may serve as a splint.

—Puerperal eclampsia is said to be promptly controlled by one drachm of *ergot* combined with half a grain of *morphia*, used hypodermically,

—The incoming legislature will undoubtedly have to deal with the question of establishing a Board of State Medical Examiners. We trust that no farce will be enacted.

—According to M. Poehl, of the Russian Chemical Society, almost all the tissues of animals and plants have the power of converting albuminoid matters into peptones.

—Dr. Wm. B. Platt is the first American to obtain the degree of Fellow of the Royal College of Surgeons of England. Out of seventeen candidates nine passed the examination.

—A Boston man with one leg and no toes on the remaining foot, carries a placard advising people where to go to get their corns cured. *Query:* Is this the way the corns are cured?

—*Punch* says Mrs. Ramsbotham has taken the greatest interest in the reports of the British Association Meetings. She wants to know if bacteria is the scientific name for lumbago, as, if so, she's got it.

—Dr. Strong, Chief of Staff of the Ward's Island Hospital, reports 848 patients treated during the month of November, with a death rate of 3.07 per cent. Whole number treated since January 1st, 6,019, with a mortality of 4.95 per cent.

—*Bromide of sodium*, in half grain doses, given in water every twenty or thirty minutes, is an excellent remedy for the nervous disturbances of teething infants, or that which follows excitement of any kind.

—Dr. J. R. Hall, of New York, has cured five or six cases of hydrocele with injections of *carbolic acid*, which he prefers to *iodine*. He used half a drachm of the pure acid, never more than one drachm.

—Two physicians disputing over a sick-bed grew rather excited. One declared the liver was affected, the other that it was the spleen. "Well," said the first, "we shall see which is right at the post mortem!" (Delightful sense of security felt by patient.)

—The New York Society for Medico-scientific Investigation has started a library, which it proposes to make as complete as possible and open to the profession in general. Contributions of books, journals, etc., are solicited and may be sent to 201 E. 23d street.

—Most of the large hospitals have a photographic studio attached. The rapid dry-plate process is employed, and Professor Charcot, of Salpêtrière, Paris, has devised an electrical camera which is very useful in taking a series of views in rapid succession.

—With our school children wearing glasses, their patched teeth, their ankles supported with iron, their shoulders held back with braces, it seems to some as if nature had really failed in her effort at creation, but to the physiologist the whole matter is as plain as possible.

—*Chrysophanic acid* is highly recommended, both internally and locally, in psoriasis. From one-fourth to one third grain of the acid, triturated with *sugar of milk*, is the maximum dose, which should be taken after meals. An ointment may be prepared by combining the drug with *vaseline*, twenty grains to the ounce.

—INSANE HOSPITAL, MASSACHUSETTS.—The demand for increased accommodation for the insane in Massachusetts is so great that it is contemplating erecting a new insane hospital at Westboro, where one now exists, on land belonging to the State. The institution will undoubtedly be placed, as a matter of justice, in the hands of the new school.

—It seems to be the general opinion of medical men that variola is likely to prevail quite extensively this winter. We are glad to learn that the Ibex Company are prepared with a superior quality of bovine virus to meet the emergency. Of two evils we should certainly choose the least, and vaccination seems unquestionably this from statistics.

—The thirty-third annual meeting of the Homœopathic Medical Society of the State of New York will be held in the Common Council room, City Buildings, Albany, N. Y., on Tuesday and Wednesday, February 12 and 13, 1884, commencing at 10 A.M. The annual address will be delivered by the President, Dr. Everitt Hasbrouck of Brooklyn, on Tuesday evening at 8 P.M.—A. P. HOLLETT, M.D., *Sec'y*.

—"Good morning, children," said an Austin physician, as he met some children on their way to school, "and how are you this morning?" "We darsn't tell you," replied the oldest of the crowd, a boy of eight. "Dare not tell me!" exclaimed the physician, "and why not?" "'Cause, papa said that last year it cost him over fifty dollars to have you come in and ask us how we were."—*Texas Siftings.*

—The Philanthropist founds a "home, of which there are many, some *highly respectable* party regardless of fitness runs it, all the red-tape possible is required to admit a few aged people who are made as uncomfortable as possible, the Board is appealed to in vain to remedy defects, because not composed of material to appreciate them.

Moral—Beware of so-called "Homes."